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THE

MISCELLANEOUS DOCUMENTS

OF THE

HOUSE OF REPRESENTATIVES

FOR THE

FIRST SESSION OF THE FIFTY-THIRD CONGRESS.

1893.

IN SIX VOLUMES.

WASHINGTON:
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1893.

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53D CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 24.

REPORTS

FROM THE

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VOL. XLII.

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MAY, JUNE, JULY, AND AUGUST, 1893.

WASHINGTON:

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1893.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 152.—MAY, 1893.

THE UNITED KINGDOM IN 1891 AND 1892.

REPORT BY CONSUL-GENERAL NEW, OF LONDON.

The total volume of trade of the United Kingdom in 1891 amounted to $3,722,000,000, a decrease as compared with the previous year of $25,000,000. The imports amounted to $2,177,000,000, an increase of $75,000,000; while the exports fell from $1,641,000,000 in 1890 to $1,545,000,000 in 1891, a decrease of nearly $100,000,000.

IMPORTS AND EXPORTS.

The principal articles of import were: Corn, $310,000,000, an increase of $42,000,000; raw cotton, $230,000,000, an increase of $16,500,000; silks, $55,500,000, a decrease of $1,000,000; sugar, $102,000,000, an increase of $11,000,000; tea, $53,500,000, an increase of $4,000,000; wood, $77,500,000, a decrease of $8,000,000; wool, $140,000,000, an increase of $4,600,000; woolen manufactures, $48,000,000, an increase of $1,700,000. Butter, cheese, bacon, eggs, meat, and provisions of all kinds amounted to nearly $300,000,000, about the same as in 1890. Animals for consumption as food amounted to $46,000,000 in value, a decrease of $10,000,000.

The principal articles of export of British and Irish produce were: Coal, $94,000,000, a decrease of $1,000,000; apparel, $25,000,000, an increase of $1,000,000; cotton yarn, $55,500,000, a decrease of $6,000,000; cotton manufactures, $301,000,000, a decrease of $9,000,000; linen manufactures, $25,000,000, a decrease of $3,000,000; machinery, $79,000,000, a decrease of $3,000,000; iron and steel, $134,000,000, a decrease of $23,000,000; woolen and worsted manufactures, $92,000,000, a decrease of $10,000,000.

There was a decrease in the value of foreign and colonial merchandise exported of $14,000,000.

Table showing the imports by articles into the United Kingdom in 1891.

Articles.		Quantity.	Value.
Animals:			
Oxen, bulls, cows, and calves	number	507,407	$42,907,870
Sheep and lambs	do	344,504	3,315,075
Bacon and hams	cwts	4,715,012	47,208,805
Beef	do	2,168,270	21,972,583
Bones, except whalebone	tons	92,773	2,471,355
Brimstone	cwts	428,478	647,485
Bristles	pounds	3,413,475	2,491,990
Butter	cwts	2,135,607	57,955,915
Margarin	do	1,235,430	17,791,015
Buttons and studs not of metal	gross	4,202,700	1,912,130
Candles of all sorts	cwts	41,456	450,200
Caoutchouc	do	278,837	16,759,690
Manufactures	pounds	3,180,198	1,811,920
Cheese	cwts	2,041,325	24,067,020
Chemical manufactures and products		.....	6,845,365
China, porcelain, and earthen ware	cwts	208,633	3,366,560
Clocks		.....	2,530,460
Cocoa	pounds	31,282,598	4,965,000
Coffee	cwts	727,227	17,186,970
Confectionery and succades	do	143,612	1,525,605
Milk, condensed	do	444,666	4,500,850
Cordage, twine, and cable yarn		.....	2,836,565
Cork:			
Unmanufactured	tons	13,258	1,020,100
Manufactured	pounds	8,852,416	3,162,405
Cereals and flour:			
Wheat	cwts	66,312,962	147,241,020
Barley	do	17,465,698	29,709,495
Oats	do	16,600,394	27,356,395
Maize	do	26,825,625	42,058,815
Other kinds of cereals	do	6,735,970	11,481,355
Flour:			
Wheat	do	16,723,003	50,924,435
Other kinds	do	648,349	1,340,530
Total of cereals and flour	do	151,312,001	310,112,045
Cotton:			
Raw	do	17,811,476	230,403,595
Manufactures		.....	13,494,995
Drugs:			
Peruvian bark	cwts	106,551	1,253,485
Opium	pounds	511,274	1,392,825
Unenumerated		.....	4,061,755
Dyeing or tanning stuffs:			
Cochineal, granilla and dust	cwts	7,911	237,735
Cutch and gambier	tons	23,926	2,827,265
Extracts		.....	2,216,840
Dyes from coal tar		.....	2,931,810
Indigo	cwts	50,879	5,217,210
Sumac	tons	11,648	669,070
Valonia	do	17,202	1,671,340
Unenumerated	cwts	1,265,612	3,886,375
Dyewoods	tons	70,794	2,109,575
Eggs	thousands	1,275,397	17,527,610
Embroidery and needlework		.....	2,293,890
Farinaceous substances and manufactures thereof unenumerated, including sago and sago flour		.....	7,474,570
Feathers, ornamental	pounds	714,575	4,919,915
Fish	cwts	2,355,370	14,049,745

Table showing the imports by articles into the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
Flax and hemp:		
Flax, dressed and undressed ... cwts...	1,473,135	$12,905,270
Tow or codilla of flax and hemp ... do...	311,907	1,439,640
Hemp and other like substances (except jute), dressed and undressed ... do...	2,007,408	13,518,430
Jute ... do...	344,720	21,018,290
Flowers, artificial ...	...	1,540,195
Fruit:		
Almonds ... cwts...	116,585	2,094,005
Apples, raw ... bushels...	3,147,373	5,169,985
Currants ... cwts...	1,366,449	7,930,210
Raisins ... do...	611,280	5,167,550
Nuts used as fruit ...	...	3,207,335
Oranges and lemons ... bushels...	5,178,676	7,955,260
Raw, unenumerated ... do...	3,490,226	8,811,030
Glass of all kinds ... cwts...	2,364,211	11,497,880
Guano ... tons...	23,623	693,210
Gum of all sorts ... cwts...	352,988	5,366,080
Gutta-percha ... do...	60,911	3,674,395
Hair:		
Goats' hair or wool ... pounds...	19,520,547	4,405,790
Manufactures of hair and of goats' wool ...	...	659,935
Hides (raw, dry, and wet) ... cwts...	1,007,070	12,185,265
Hops ... do...	195,266	4,900,250
Lace and articles thereof ...	...	4,815,660
Lard ... cwts...	1,051,284	8,600,255
Leather ... pounds...	108,543,848	33,162,710
Leather gloves ... pairs...	21,332,364	9,580,545
Linen:		
Yarn ... pounds...	19,130,076	3,793,745
Manufactures ...	...	2,138,455
Matches ...	...	2,220,450
Meat, unenumerated, salted or fresh ... cwts...	1,776,351	17,689,495
Preserved other than salted ... do...	776,261	9,440,305
Metals:		
Copper—		
Ore and regulus ... tons...	212,327	21,172,075
Unwrought, part wrought, and old ... do...	46,483	12,226,245
Iron—		
Ore ... do...	3,180,543	1,226,535
In bars ... do...	77,427	3,757,935
Iron and steel, wrought or manufactured ... do...	229,079	16,373,005
Lead, pig or steel ... do...	169,724	10,688,370
Manganese ore ... do...	101,449	1,627,225
Quicksilver ... pounds...	4,707,804	2,537,515
Silver ore ...	...	18,831,695
Tin in blocks, ingots, bars, or slabs ... cwts...	564,144	12,825,370
Zinc—		
Crude, in cakes ... tons...	58,513	6,647,525
Manufactures ... cwts...	403,163	2,571,980
Musical instruments ...	...	5,161,955
Nuts and kernels used for expressing oil therefrom ... tons...	62,930	4,136,350
Oil:		
Fish ... tuns...	21,969	2,273,520
Palm ... cwts...	1,018,420	5,933,525
Cocoanut ... do...	186,469	321,140
Olive ... tuns...	18,107	3,657,175
Seed ... do...	23,011	3,049,450
Turpentine ... cwts...	422,530	2,881,035
Oilseed cake ... tons...	270,671	9,216,425
Onions, raw ... bushels...	4,281,046	3,668,725
Painters' colors and pigments ...	...	4,893,120

Table showing the imports by articles into the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
Paper:		
For printing or writing ... cwts ...	321,635	£1,989,630
Other (except hangings) ... do ...	2,270,121	8,629,425
Paraffin ... do ...	599,352	4,025,170
Petroleum, unrefined and refined ... gallons ...	130,615,360	13,426,840
Phosphate of lime and rock ... tons ...	256,772	3,141,975
Pictures and drawings by hand, prints, engravings, and photographs ...	...	4,158,840
Pork ... cwts ...	354,316	2,993,285
Potatoes ... do ...	3,192,836	5,984,120
Poultry, game, and rabbits ...	...	3,719,800
Pyrites of iron and copper ... tons ...	626,227	5,632,835
Rags and paper-making materials:		
Rags ... do ...	32,824	1,587,775
Esparto and other materials ... do ...	406,374	10,729,975
Rice ... cwts ...	6,198,979	13,993,860
Rosin ... do ...	1,638,840	1,999,695
Saltpeter ... do ...	278,782	1,255,105
Cubic nitre ... do ...	2,440,652	5,249,090
Seeds:		
Clover and grass ... do ...	256,920	2,764,895
Cotton ... tons ...	350,437	10,238,735
Flax or linseed ... quarters ...	2,200,112	22,823,345
Rape ... do ...	261,169	1,942,230
Silk:		
Knubs or husks and waste ... cwts ...	77,556	4,116,820
Raw ... pounds ...	2,434,609	8,219,030
Thrown ... do ...	581,867	2,505,050
Manufactures—		
Broad stuffs ...	...	27,259,905
Ribbons ...	...	13,382,100
Other manufactures ...	...	15,255,935
Total of silk manufactures ...	...	55,897,940
Skins and furs:		
Goat, undressed ... number ...	8,329,105	4,094,660
Seal ... do ...	683,588	3,469,015
Sheep and lamb, undressed ... do ...	13,041,530	7,068,225
Furs of all sorts ... do ...	39,158,304	4,994,815
Manufactures, including rugs ...	...	3,263,325
Spices:		
Pepper ... pounds ...	34,794,260	3,412,210
Of all other sorts ... do ...	12,151,653	1,667,005
Spirits:		
Rum ... proof gallons ...	6,981,328	3,281,955
Brandy ... do ...	3,162,548	7,095,140
Other foreign and colonial spirits ... do ...	2,153,516	1,906,610
Total of spirits ... do ...	12,297,392	12,283,705
Stones, marble and slate (rough, hewn, or manufactured, other than works of art ... tons ...	428,072	3,074,545
Sugar:		
Refined and sugar candy ... cwts ...	11,332,121	46,764,485
Unrefined ... do ...	16,202,458	52,512,900
Molasses ... do ...	559,380	874,800
Glucose ... do ...	708,079	2,287,970
Tallow and stearin ... do ...	1,371,201	8,861,340
Tea ... pounds ...	240,779,331	53,665,700
Teeth, (elephant, sea cow, and sea horse) ... cwts ...	10,952	2,746,795

Table showing the imports by articles into the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
Tobacco:		
Manufactured cigars and snuff ... pounds	3,497,408	$6,423,570
Unmanufactured ... do	59,996,176	10,696,285
Toys		3,955,900
Watches		3,219,435
Wine ... gallons	16,782,631	29,923,505
Wood and timber:		
Hewn ... loads	2,250,692	22,503,335
Sawn or split ... do	4,379,060	46,924,580
Staves ... do	129,987	2,946,810
Mahogany ... tons	48,021	2,247,165
House frames, fittings, joiners' and cabinet work		3,269,225
Wool (sheep, lamb, alpaca, and the llama tribe) ... pounds	720,014,070	140,390,210
Woolen rags ... tons	37,037	3,848,670
Woolen manufactures		48,345,895
Woolen and worsted yarn:		
Berlin wool and yarn used for fancy purposes ... pounds	1,308,854	1,173,385
Yarn for weaving ... do	14,722,167	8,169,505
Yeast, dried ... cwts	254,930	3,402,855
All other articles		118,941,025
Grand total		2,177,206,320

Table showing the exports by articles from the United Kingdom in 1891.

Articles.	Quantity.	Value.
British and Irish produce.		
Alkali ... cwts	6,227,400	$11,676,405
Animals (horses) ... number	11,234	2,625,175
Apparel and slops		25,752,655
Arms and ammunition:		
Firearms, small ... number	182,253	1,310,760
Gunpowder ... pounds	11,224,400	1,371,970
Of all other kinds		5,725,100
Bags, empty ... dozens	2,590,136	2,934,100
Beer and ale ... barrels	462,519	8,472,835
Biscuits and bread ... cwts	213,772	3,008,640
Bleaching materials ... do	1,513,700	2,612,075
Books, printed ... do	173,880	6,943,345
Butter ... do	21,492	620,555
Candles of all sorts ... pounds	15,874,200	1,571,970
Caoutchouc, manufactures of		6,213,970
Carriages and wagons, railway		8,869,360
Cement ... cwts	11,519,380	5,703,485
Cheese ... do	12,092	235,090
Chemical products and dyestuffs		14,276,150
Clay, unmanufactured ... tons	270,614	1,494,490
Clocks and watches		604,880
Coals, etc.:		
Coals, cinders, and fuel ... tons	31,084,116	94,475,390
Products of coal, except dyes		7,849,570
Cordage and twine ... cwts	190,454	2,186,485
Cereals and flour:		
Wheat ... do	159,688	375,720
Wheat flour ... do	213,086	643,770
Other kinds		1,325,630
Cotton yarn ... pounds	245,258,700	55,886,740

Table showing the exports by articles from the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Coutinued.		
Cotton manufactures:		
Piece goods—		
White or plain.....yards...	3,433,424,300	$165,067,795
Printed, dyed, or checked.....do.....	1,479,009,000	97,083,505
Of mixed materials.....do.....	42,400	8,585
Stockings and socks.....dozen pairs...	1,214,012	1,583,645
Thread for sewing.....pounds...	18,070,600	16,270,965
Other kinds.....	.....	21,136,785
Total of cotton manufactures.....	.....	301,151,280
Earthenware and china ware, including manufactures of clay.....	.....	11,868,450
Fish:		
Herrings.....barrels...	951,309	6,251,750
Other sorts.....	.....	2,301,335
Furniture, cabinet, and upholstery wares.....	.....	2,959,590
Glass:		
Plate, rough or silvered.....square feet...	3,284,513	1,062,110
Flint.....cwts...	109,502	1,214,690
Common bottles.....do.....	791,147	1,856,770
Other sorts.....do.....	213,974	933,515
Grease, tallow, and animal fat.....do.....	417,265	2,760,795
Haberdashery and millinery.....	.....	10,000,505
Hardware and cutlery.....	.....	12,637,875
Hats of all sorts.....dozens...	1,374,692	6,473,310
Implements and tools of industry.....	.....	6,557,865
Instruments and apparatus (surgical, anatomical, and scientific).....	.....	1,443,720
Leather:		
Unwrought.....cwts...	148,975	6,820,915
Wrought—		
Boots and shoes.....dozen pairs...	706,517	9,546,630
Other sorts.....	.....	1,930,005
Saddlery and harness.....	.....	2,845,815
Linen and jute yarn:		
Linen yarn.....pounds...	14,859,900	4,495,130
Jute yarn.....do.....	33,178,500	1,709,930
Linen and jute manufactures:		
Linen manufactures—		
White or plain.....yards...	144,416,700	16,317,315
Printed, checked, or dyed.....do.....	11,807,600	1,506,395
Sailcloth and sails.....do.....	3,233,400	721,135
Thread for sewing.....pounds...	2,474,100	1,548,130
Other sorts.....	.....	5,068,005
Total of linen manufactures.....	.....	25,160,980
Jute manufactures.....yards...	283,618,000	12,673,030
Machinery:		
Steam engines.....	.....	19,619,360
Other sorts.....	.....	59,468,215
Manure.....	.....	10,556,750
Medicines.....	.....	5,267,180
Metals:		
Iron—		
Old for remanufacture.....tons...	111,068	1,771,845
Pig and puddled.....do.....	840,055	11,027,835
Bar, angle, bolt, and rod.....do.....	217,121	7,314,500
Railroad of all sorts.....do.....	702,247	19,263,820
Wire.....do.....	67,516	5,715,635
Hoops, sheets, and boiler plates.....do.....	321,367	17,803,245
Tinned plates.....do.....	448,379	35,833,275
Cast or wrought and all other manufactures.....do.....	364,903	24,032,005

Table showing the exports by articles from the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Continued.		
Metals—Continued.		
Steel, unwrought ... tons	150,452	$8,660,365
Manufactures of steel or of steel and iron combined ... do	17,038	2,962,495
Total of iron and steel ... do	3,240,146	134,385,000
Copper—		
Unwrought (ingots, cakes, or slabs) ... cwts	707,182	9,823,740
Wrought or partly wrought:		
Mixed or yellow metal ... do	281,399	3,932,575
Of other sorts ... do	323,292	5,384,245
Brass of all sorts ... do	114,014	2,583,030
Lead (pig, sheet, and pipe) ... tons	48,233	3,412,395
Tin, unwrought ... cwts	103,307	2,457,460
Zinc, wrought and unwrought ... do	153,485	808,665
Musical instruments		1,050,000
Oil and floor cloth ... square yards	19,685,000	4,168,935
Oil (seed) ... tons	70,416	7,676,415
Painters' colors and materials		8,086,590
Paper, other than hangings ... cwts	936,477	7,773,665
Pickles, vinegar, and sauces		6,864,585
Pictures ... number	16,623	1,698,000
Plate and plated ware		1,953,275
Provisions, not otherwise described		4,326,465
Rags and other materials for paper ... tons	49,638	1,775,675
Salt ... do	671,265	2,982,040
Seeds of all sorts ... cwts	232,281	1,304,385
Silk (thrown, twist, or yarn)		2,582,595
Silk manufactures:		
Broad piece goods	6,454,526	3,710,050
Other kinds		5,013,175
Total of silk manufactures		8,723,225
Skins and furs:		
British		2,487,155
Foreign (British dressed) ... number	4,670,847	4,068,265
Soap ... cwts	524,382	2,856,810
Spirits ... gallons	3,871,856	6,479,215
Stationery, other than paper		4,579,710
Stones and slates:		
Slate ... number	48,477,000	1,310,515
Grindstones, millstones, and other sorts of stones ... tons	32,360	797,365
Sugar, refined ... cwts	725,127	2,607,785
Telegraphic wire and apparatus		7,170,100
Umbrellas and parasols		3,042,120
Wood and timber manufactured (staves and empty casks and unenumerated)		2,323,190
Wool:		
Sheep and lambs' ... pounds	16,727,800	3,524,300
Flocks and rug wool ... do	13,764,100	1,768,505
Noils ... do	10,608,400	3,417,285
Waste ... do	2,483,800	560,555
Combed or carded and tops ... do	6,447,200	2,292,755
Woolen and worsted yarn ... do	41,438,800	19,553,255
Woolen and worsted manufactures:		
Cloths, coatings, etc. (unmixed and mixed) ... yards	80,973,500	52,261,965
Flannels, blankets, blanketing, and baizes ... do	18,669,500	4,829,525
Stuffs, unmixed and mixed ... do	119,692,700	21,617,645
Carpets and druggets ... do	10,537,800	5,453,525
All other sorts		8,070,540
Total of woolen and worsted manufactures		92,233,200

Table showing the exports by articles from the United Kingdom in 1891—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Continued.		
Yarn, alpaca and mohair and other unenumerated.....pounds...	13,585,700	£5,676,785
All other articles.....	.....	41,238,165
Total British and Irish produce.....	.....	1,236,175,750
Foreign and colonial produce.		
Bacon and hams.....cwts...	892,276	2,422,795
Butter and margarin.....do.....	64,489	1,786,220
Caoutchouc.....do.....	156,259	8,951,490
Cheese.....do.....	65,306	966,345
Chemical manufactures and products.....	.....	808,890
Cocoa.....pounds..	8,837,030	1,506,980
Coffee.....cwts...	484,481	11,230,700
Cereals and flour:		
Wheat.....do.....	492,493	1,064,125
Wheat meal or flour.....do.....	183,696	573,960
Cotton:		
Raw.....do.....	1,625,072	18,939,455
Manufactures—		
Piece goods.....yards...	16,214,089	1,297,895
Other articles.....	.....	628,435
Drugs:		
Peruvian bark.....cwts...	106,059	924,740
Opium.....pounds...	297,534	798,455
Unenumerated.....	.....	2,070,360
Dyeing or tanning stuffs:		
Cochineal, granilla and dust.....cwts....	4,952	145,900
Cutch and gambier.....tons...	7,934	983,485
Indigo.....cwts...	33,297	3,265,105
Feathers, ornamental.....pounds...	275,112	2,108,850
Fish, cured or salted.....cwts...	312,929	2,670,890
Flax and hemp:		
Flax, dressed and undressed.....cwts...	105,141	786,280
Tow or codilla of flax and hemp.....do.....	26,281	109,470
Hemp and other like substances (except jute), dressed and undressed.....cwts...	1,018,371	8,389,065
Jute.....tons...	110,000	6,754,130
Fruit:		
Almonds.....cwts...	48,600	845,020
Currants.....do.....	64,603	340,755
Raisins.....do.....	75,188	583,915
Oranges and lemons.....bushels...	357,189	523,130
Guano.....tons...	1,056	52,290
Gum of all sorts.....cwts...	211,210	3,347,460
Gutta-percha.....do.....	6,408	285,530
Hair:		
Cow, ox, bull, or elk.....do.....	47,545	534,395
Other kinds, including horse and goats' hair or wool.....	.....	1,537,240
Hides (raw, dry, and wet).....cwts...	294,595	4,012,445
Lard.....do.....	158,175	1,416,990
Leather.....pounds...	18,645,384	7,965,080
Matches.....	.....	1,127,340
Meat (preserved, salted, or fresh, including mutton, beef, and pork—not hams—and unenumerated).....cwts...	192,143	1,616,660
Metals:		
Copper (unwrought, part wrought, and old).....tons...	11,781	3,309,915
Iron in bars.....do.....	56,130	2,282,105
Iron and steel manufactures, unenumerated.....do.....	27,242	1,294,825
Lead, pig or sheet.....do.....	16,028	1,011,735
Quicksilver.....pounds...	4,248,357	2,222,845
Tin in blocks, ingots, bars, or slabs.....cwts...	292,419	6,694,470

Table showing the exports by articles from the United Kingdom in 1891—Continued.

Articles.		Quantity.	Value.
Foreign and colonial produce—Continued.			
Milk, condensed	cwts.	110,707	£1,188,965
Nuts and kernels used for expressing oil therefrom	tons	39,190	2,313,675
Oil:			
Cocoanut	cwts.	85,209	615,140
Olive	tuns	3,785	749,560
Palm	cwts.	525,764	3,070,260
Seed	tons	4,063	423,960
Precious stones, unset		.....	760,365
Rags and other material used for making paper, linen and cotton rags	tons	20,723	809,605
Rice	cwts.	3,212,394	7,546,395
Saltpeter	do.	23,997	111,715
Cubic niter	do.	126,991	289,595
Seeds:			
Flax or linseed	quarters	69,994	731,550
Rape	do.	37,000	404,600
Unenumerated, used for obtaining oil	do.	112,667	1,157,810
Shells of all kinds		.....	1,546,115
Silk:			
Knubs or husks of silk and waste	cwts.	7,135	402,980
Raw	pounds	78,172	242,305
Thrown	do.	28,739	109,720
Manufactures		.....	4,503,700
Skins and furs:			
Goat, undressed	number	8,198,736	3,642,735
Seal	do.	30,051	320,780
Sheep, undressed	do.	2,500,078	946,020
Furs of all sorts	do.	22,015,665	4,719,570
Spices:			
Pepper	pounds	19,902,402	1,856,730
Other sorts	cwts.	116,121	1,375,395
Spirits:			
Rum	proof gallons	1,048,213	939,805
Brandy	do.	95,880	326,140
Geneva and other foreign and colonial spirits	gallons	367,267	1,024,300
Straw plaiting for making hats	pounds	4,136,013	1,437,160
Sugar:			
Refined and candy	cwts.	216,970	911,395
Unrefined	do.	264,082	1,003,275
Molasses	do.	203,023	388,625
Tallow and stearin	do.	434,802	2,768,245
Tea	pounds	33,712,143	7,812,655
Teeth (elephant, sea cow, and sea horse)	cwts.	7,857	1,903,735
Tobacco:			
Unmanufactured	pounds	6,764,910	1,094,525
Manufactured—			
Cigars	do.	239,141	594,465
Other sorts, including snuff	do.	1,473,155	716,245
Wine	gallons	1,244,599	2,925,645
Wool (sheep, lamb, alpaca, and llama)	pounds	384,224,656	78,953,370
Woolen manufactures		.....	6,682,055
All other articles		.....	38,883,690
Total foreign and colonial produce		.....	309,392,840
Grand total		.....	1,545,568,590

Table showing the imports and exports by countries.

Countries.	Imports.	Exports.
Argentine Republic	$17,256,140	$21,830,140
Austrian territories	7,320,530	8,035,955
Belgium	86,266,325	66,362,360
Brazil	21,249,545	43,086,465
Central America	7,000,650	6,027,445
Chile	18,551,780	11,029,845
China	23,567,540	32,628,320
Colombia	1,646,220	6,716,165
Denmark proper and Iceland	39,683,935	15,163,063
Danish West Indies	2,975	304,185
Ecuador	551,190	1,386,310
Egypt	53,291,440	19,378,320
France	223,887,300	121,683,380
Algeria	3,369,850	1,959,970
Possessions in Senegambia	368,630	723,185
Possessions in India	120	1,247,100
Germany	135,158,715	149,721,805
Greece	10,832,430	6,092,730
Haiti and Santo Domingo	223,785	1,676,790
Holland	136,508,285	74,944,650
Java and other possessions in the Indian seas	9,524,000	12,663,305
Italy	17,096,405	34,265,240
Japan	5,762,925	15,304,465
Mexico	2,467,265	9,783,235
Morocco	3,057,225	3,665,745
Peru	4,849,070	5,626,030
Portugal	14,764,825	11,746,270
Azores and Madeira	692,200	1,020,660
Roumania	25,190,455	8,698,560
Russia:		
Northern ports	62,210,560	34,515,510
Southern ports	58,340,695	6,450,150
Spain	52,619,385	27,635,305
Canary Islands	1,292,655	2,378,585
Fernando Po	39,715	58,400
West India Islands	705,585	12,440,305
Philippine Islands	12,106,135	4,060,190
Sweden and Norway	59,366,400	32,922,190
Turkey	27,214,405	35,492,370
United States	522,045,250	205,330,735
Uruguay	1,871,305	5,973,150
Venezuela	1,454,985	4,302,450
Western coast of Africa	2,562,145	4,893,475
Other countries	7,093,570	7,284,310
Total of foreign countries	1,679,882,730	1,078,877,995
British possessions:		
Australia	156,307,855	141,280,600
British Honduras	1,475,435	684,245
British India	161,171,990	162,746,035
Cape of Good Hope and Natal	31,272,140	43,192,685
Ceylon	20,844,990	5,306,870
Channel Islands	6,007,430	4,874,560
Gibraltar	242,000	4,004,615
Gold coast	5,235,010	3,730,765
Hongkong	5,508,510	13,660,785
Malta	610,675	5,097,335
Mauritius	1,340,330	1,383,975
Niger protectorate	2,260,130	3,374,485
North American colonies	63,032,075	41,499,710

Table showing the imports and exports by countries—Continued.

Countries.	Imports.	Exports.
British possessions—Continued.		
Straits Settlements	$26,784,325	$12,946,310
West India Islands and Guiana	12,218,790	16,725,025
West Africa settlements	1,386,670	2,189,895
Other possessions	1,525,235	3,992,700
Total of British possessions	497,323,590	466,690,590
Grand total	2,177,206,320	1,545,568,590

TRADE WITH THE UNITED STATES.

The total imports from the United States in 1891 were valued at $522,000,000, while the exports thereto were valued at $205,000,000—a balance of trade in favor of the United States of $317,000,000. The value of the imports was greater than in any year since 1880, and exceeded the previous year by $36,000,000.

The principal articles of import were: Animals, valued at $30,500,000, a decrease of $6,500,000; corn, $111,000,000, an increase of $13,000,000; raw cotton, $182,500,000, an increase of $26,000,000. The total imports of grain and flour in equivalent weight of grain into the United Kingdom from all countries was 89,539,355 cwts., of which 43,226,748 cwts. came from the United States, 14,759,191 cwts. from Russia, 13,011,253 cwts. from British India, and 4,603,349 cwts. from British North America. Of the 1,994,885,312 pounds of raw cotton imported 1,617,540,736 pounds came from the United States, 225,377,000 pounds from Egypt, 100,820,000 pounds from the British East Indies, and 30,000,000 pounds from Peru.

The value of the exports to the United States showed a decrease of $26,000,000 compared with 1890. The principal decreases were in the following articles: Cottons, $11,700,000, a decrease of $1,900,000; linens, $12,000,000, a decrease of $2,500,000; metals, $31,500,000, a decrease of $1,500,000; woolen and worsted manufactures, $15,800,000, a decrease of $9,800,000; silks, $3,500,000, a decrease of $2,000,000.

Table showing the imports from the United States in 1891.

Articles.		Quantity.	Value.
Animals, living:			
Oxen and bulls	number	314,228	$30,267,415
Sheep and lambs	do	10,537	89,740
Horses	do	590	192,665
Bacon and hams	cwts	3,791,495	35,491,190
Beef:			
Fresh	do	1,747,578	18,726,620
Salted	do	235,140	1,674,090
Books	do	6,458	253,065
Butter	do	63,693	1,258,750
Margarin (butterine)	do	830	11,920
Caoutchouc	do	28,517	1,766,885
Manufactures	pounds	426,784	256,350

Table showing the imports from the United States in 1891—Continued.

Articles.		Quantity.	Value.
Cheese	cwts.	774,893	£8,896,300
Clocks and parts thereof		.....	512,295
Coffee, raw	cwts.	45,5[illegible]	1,073,605
Copper:			
Ore	tons.	4,[illegible]65	397,630
Regulus	do.	3[illegible],003	5,231,155
Unwrought and part wrought	do.	8,[illegible]69	1,887,815
Cereals and flour:			
Wheat	cwts.	24,[illegible]14,955	55,434,190
Barley	do.	749,451	1,399,260
Oats	do.	904,072	1,527,540
Peas	do.	6[illegible]5,126	1,111,060
Maize or Indian corn	do.	9,[illegible]140,624	11,209,630
Wheat meal and flour	do.	1[illegible]03,035	41,147,975
Oatmeal	do.	130,852	383,075
Cotton:			
Raw	do.	4,442,328	182,893,940
Manufactures		.....	1,137,030
Drugs not otherwise enumerated		.....	688,230
Dyestuffs (extracts)		.....	214,090
Farinaceous substances not otherwise enumerated		.....	464,630
Fish	cwts.	423,422	3,637,460
Fruit, raw:			
Apples	bushels.	1,385,350	2,218,265
Unenumerated	do.	5,964	16,900
Hair not otherwise enumerated		.....	185,705
Hemp	cwts.	24,525	157,255
Hides, raw	do.	15,358	170,485
Hops	do.	80,226	2,180,340
Iron and steel manufactures:			
Sewing machines		.....	397,875
Unenumerated	cwts.	540,772	2,094,355
Lard	do.	1,025,399	8,372,605
Lead, pig or sheet	tons.	9,220	620,340
Leather	pounds.	51,037,905	11,042,200
Manures:			
Phosphate of lime and rock	tons.	132,084	1,765,915
Unenumerated	do.	1,795	18,885
Meat, unenumerated:			
Salt or fresh	cwts.	19,733	4,827,070
Preserved otherwise than by salting	do.	417,821	199,740
Musical instruments		.....	975,440
Mutton, fresh	cwts.	10,574	121,865
Naphtha, wood, not potable	gallons.	10,633	10,045
Oil:			
Sperm	tuns.	302	69,610
Train or blubber	do.	2,771	273,580
Animal	cwts.	71,119	676,300
Turpentine	do.	406,910	2,805,485
Chemical, essential, or perfumed	pounds.	53,947	106,830
Oilseed cake	tons.	174,174	5,964,255
Paraffin	cwts.	543,110	3,887,860
Perfumery	pounds.	780,052	136,225
Petroleum	gallons.	82,035,621	9,149,015
Pork, salted	cwts.	170,075	1,163,765
Resin	do.	1,599,707	1,963,080
Seeds, clover and grass	do.	106,318	1,272,755
Silver ore		.....	975,945
Skins and furs, all sorts		.....	2,486,725

Table showing the imports from the United States in 1891—Continued.

Articles.		Quantity.	Value.
Sugar:			
Refined and candy	cwts.	536,651	$2,256,890
Unrefined	do.	10,783	39,020
Molasses	do.	400,038	690,795
Glucose	do.	546,063	1,725,700
Tallow and stearin	do.	490,085	3,032,990
Tar	barrels	9,965	30,585
Tobacco:			
Unmanufactured	pounds	46,889,204	8,107,880
Manufactured	do.	2,251,260	4,607,640
Vegetables, raw			300,835
Watches and parts thereof			129,425
Wax	cwts.	4,383	105,345
Wood and timber:			
Hewn	loads	149,027	3,215,855
Sawn or split	do.	308,034	4,296,778
Staves	do.	17,978	608,640
Furniture woods and hard woods	tons	51,592	1,855,855
House frames, fittings, and joiners' work			977,405
Wool, sheep or lambs'	pounds	558,073	95,295
All other articles			14,503,880
Total			522,045,250

Table showing increase or decrease in imports from the United States in 1891 as compared with 1890.

Articles.		Quantity.		Value.	
		Increase.	Decrease.	Increase.	Decrease.
Animals, living:					
Oxen and bulls	number		69,970		$6,492,490
Sheep and lambs	do.	6,633		$50,240	
Swine	do.		1,086		4,054
Horses	do.	226		91,815	
Bacon and hams	cwts.		237,353		1,882,495
Beef:					
Fresh	do.	54,430		576,825	
Salted	do.		27,912		120,470
Books	do.		113	16,580	
Butter	do.		20,860		353,175
Margarin	do.		135		280
Caoutchouc	do.	14,768		1,317,725	
Manufactures	pounds		140,549		53,930
Cheese	cwts.		144,525		1,511,430
Clocks and parts thereof					19,130
Coffee, raw	cwts.	11,532		324,730	
Copper:					
Ore	tons	2,142		114,155	
Regulus	do.	5,032		725,735	
Unwrought and part wrought	do.	5,674		1,557,750	
Cereals and flour:					
Wheat	cwts.	6,993,892		20,960,155	
Barley	do.	334,118		646,085	
Oats	do.		1,106,379		1,574,480
Peas	do.	681		105,700	
Maize or Indian corn	do.	16,085,976			14,558,055

Table showing increase or decrease in imports from the United States, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Cereals and flour—Continued.				
Wheat meal and flour ... cwts	1,677,235		$7,477,935	
Oatmeal ... do		133,652		$297,040
Cotton:				
Raw ... do	2,685,570		25,918,665	
Manufactured				8,235
Drugs not otherwise enumerated			47,260	
Dyestuffs, extracts				16,905
Farinaceous substances not otherwise enumerated			289,615	
Fish ... cwts		13,730		41,860
Fruit, raw:				
Apples ... bushels	881,398		1,396,620	
Unenumerated ... do	227			3,670
Hair not otherwise enumerated				144,250
Hemp ... cwts	61			23,950
Hides, raw ... do		35,095		400,550
Hops ... do	6,778		250,690	
Iron and steel manufactures:				
Sewing machines				250,350
Unenumerated ... cwts	4,093		256,950	
Lard ... do		223,548		1,876,140
Lead, pig or sheet ... tons	3,147		191,545	
Leather ... pounds	6,626,112		945,405	
Manures:				
Phosphate of lime and rock ... tons	47,199			470,875
Unenumerated ... do		157		2,510
Meat, unenumerated:				
Salted or fresh ... cwts	2,918		36,850	
Preserved, otherwise than by salting ... do		107,039		863,745
Musical instruments			50,085	
Mutton, fresh ... cwts	10,140		120,500	
Naphtha, wood, not potable ... gallons	8,243		7,260	
Oil:				
Sperm ... tuns	189		41,215	
Train or blubber ... do		538	41,970	
Animal ... cwts		6,469		45,430
Turpentine ... do		3,287		342,665
Chemical, essential, or perfumed ... pounds		20,133		23,820
Oilseed cake ... tons		46,082		815,010
Paraffin ... cwts	53,961		762,545	
Perfumery ... pounds	125,688		21,860	
Petroleum ... gallons	11,132,595		550,745	
Pork, salted ... cwts		34,502		247,105
Resin ... do	14,968		126,470	
Seeds, clover and grass ... do		24,715		32,510
Silver ore				262,975
Skins and furs of all sorts			337,325	
Sugar:				
Refined and candy ... cwts	243,756		1,020,720	
Unrefined ... do		4,071		15,050
Molasses ... do		118,927		154,610
Glucose ... do	229,963		825,360	
Tallow and stearin ... do		98,136		110,785
Tar ... do		10,341		32,025
Tobacco:				
Unmanufactured ... pounds		6,539,595	218,590	
Manufactured ... do	69,975			155,620
Vegetables, raw			57,320	

Table showing increase or decrease in imports from the United States, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Watches and parts thereof	.....	.....	.....	$3,110
Wax ... cwts.	2,356	.....	.....	56,100
Wood and timber:				
Hewn ... loads	.....	2,670	$140,155	.....
Sawn or split ... do	.....	390	.....	367,590
Staves ... do	.....	3,853	.....	173,100
Furniture woods and hard woods ... tons	2,834	.....	27,610	.....
House frames, fittings, and joiners' work	.....	.....	162,785	.....
Wool ... pounds	.....	158,754	.....	15,635
All other articles	.....	.....	2,018,165	.....
Total	.....	.....	35,628,105	.....

Table showing the exports to the United States in 1891.

Articles.	Quantity.	Value.
British and Irish produce.		
Alkali ... cwts.	3,714,000	$6,486,600
Animals:		
Horses ... number	542	253,055
Unenumerated	.....	94,145
Apparel and haberdashery	.....	1,500,425
Arms, ammunition, and military stores	.....	283,180
Bags and sacks, empty ... dozens	67,790	85,450
Beer and ale ... barrels	44,458	964,480
Bleaching materials ... cwts.	977,800	1,686,800
Books, printed ... do	47,576	2,004,005
Caoutchouc, manufactures of	.....	335,830
Cement ... tons	211,352	2,107,960
Chemical products and preparations, including dyestuffs	.....	2,477,855
Clay, manufactures of	.....	559,080
Clocks, watches, and parts thereof	.....	176,795
Coal, cinders, and fuel ... tons	339,417	1,172,370
Coal, products of (including naphtha, paraffin, paraffin oil, and petroleum)	.....	482,165
Cordage and twine ... cwts.	3,502	43,570
Cotton yarn ... pounds	1,227,100	527,235
Cottons:		
Entered by the yard ... yards	54,736,600	6,513,045
Entered at value	.....	5,246,485
Earthenware and china ware	.....	4,510,805
Flax and hemp, dressed and undressed ... cwts.	31,860	614,815
Furniture, cabinet, and upholstered wares	.....	245,065
Glass manufactures	.....	909,385
Hardware and cutlery, unenumerated	.....	1,108,385
Hats of all sorts ... dozens	29,360	238,090
Hides, raw ... cwts.	3,476	36,505
Implements and tools	.....	212,055
Instruments and apparatus (surgical, anatomical, and scientific)	.....	180,665
Jute:		
Yarn ... pounds	3,445,000	172,235
Manufactures (piece goods) ... yards	172,660,400	6,093,080
Leather, wrought and unwrought	.....	902,660
Linen yarn ... pounds	375,200	61,145
Linens:		
Entered by the yard ... yards	80,603,900	8,600,665
Entered at value	.....	3,404,190

Table showing the exports to the United States in 1891—Continued.

Articles.	Quantity.	Value.
British and Irish produce—Continued.		
Machinery and mill work		$4,945,150
Manure		603,160
Medicines, drugs, and medicinal preparations		182,100
Metals:		
Iron, wrought and unwrought ... tons	440,005	30,991,770
Copper, wrought and unwrought ... cwts	7,607	124,825
Tin, unwrought ... do	3,740	90,810
Unenumerated and manufactures thereof		598,045
Oil and floor cloth ... square yards	1,207,500	321,010
Painters' colors and materials		808,360
Paper of all sorts ... cwts	23,624	374,395
Pickles, vinegar, sauces, etc		1,180,275
Prints, engravings, drawings, etc		204,080
Provisions, including meat		39,640
Rags and other materials for making paper ... tons	41,297	1,571,440
Salt ... do	97,348	540,785
Seeds of all sorts ... cwts	9,094	79,815
Silk:		
Thrown, twist, or yarn		1,540,820
Manufactures		2,040,535
Skins and furs of all sorts		5,000,615
Soap ... cwts	10,628	253,060
Stationery other than paper		391,540
Stones and slates		395,915
Sugar, refined and candy ... cwts	51,194	179,370
Telegraphic wires and apparatus		18,305
Wool:		
Sheep and lambs', raw or undressed ... pounds	8,596,900	1,458,765
Noils, waste, and carded or combed and tops ... do	114,500	28,175
Woolen and worsted yarn ... do	307,600	189,220
Yarn (alpaca, mohair, and other sorts) ... do	115,100	85,905
Woolens and worsteds:		
Entered by the yard ... yards	37,537,000	14,853,715
Entered at value		1,036,750
All other articles		5,971,390
Total British and Irish produce		137,722,765
Foreign and colonial produce.		
Animals (horses) ... number	87	61,200
Art, works of (including pictures)		50,655
Bristles ... pounds	854,489	224,230
Caoutchouc ... cwts	70,403	3,748,165
Chemical manufactures and products, unenumerated		120,430
China ware and earthenware ... cwts	5,879	68,165
Cocoa ... pounds	1,393,493	372,195
Coffee ... cwts	12,443	298,410
Cordage, twine, and cable yarn		36,585
Cotton:		
Raw ... cwts	120,441	1,980,010
Manufactures		124,400
Drugs:		
Peruvian bark ... cwts	22,367	239,505
Opium ... pounds	89,669	213,610
Unenumerated		739,005
Dyeing or tanning stuffs:		
Cochineal ... cwts	1,362	40,380
Cutch and gambier ... tons	3,952	461,080
Indigo ... cwts	5,230	484,140
Unenumerated ... do	27,729	386,105
Farinaceous substances		138,125

Table showing the exports to the United States in 1891—Continued.

Articles.		Quantity.	Value.
Foreign and colonial produce—Continued.			
Feathers:			
For beds	cwts.	5,565	$137,885
Ornamental	pounds	54,719	471,955
Fish, cured or salted	cwts.	84,790	429,090
Flax (dressed, undressed, and tow or codilla of flax)	do.	108,972	765,355
Fruit:			
Almonds	do.	17,562	300,360
Currants	do.	2,028	11,995
Figs and fig cake	do.	20,716	172,460
Nuts used as fruits			142,295
Oranges and lemons	bushels	85,050	130,895
Raisins	cwts.	9,065	74,575
Unenumerated—			
Raw	bushels	43,653	110,735
Dried	cwts.	144,369	528,075
Glass of all kinds	do.	2,793	38,145
Gum—			
Lac, seed, shell, stick, and dye	do.	41,058	722,440
All other sorts	do.	25,047	468,815
Hair:			
Goats' hair or wool	pounds	9,200,600	574,590
All other sorts			2,320,595
Hemp (dressed or undressed and tow or codilla of hemp)	cwts.	675,054	5,657,690
Hides, raw	do.	59,575	785,450
Hops	do.	1,271	36,515
Ivory (teeth of elephants, sea cows, etc.)	do.	1,706	523,095
Ink	tons	1,243	79,370
Lace			66,345
Leather, dressed and undressed	pounds	5,380,073	2,556,835
Linen manufactures			29,235
Metals:			
Iron bars, etc.	tons	34,765	2,331,245
Steel, unwrought	do.	2,496	120,255
Iron and steel manufactures, unenumerated	cwts.	36,768	298,590
Lead, pig or sheet	tons	738	49,785
Tin in blocks, ingots, bars, or slabs	cwts.	205,511	4,704,180
Unenumerated, unwrought	tons	222	203,675
Onions	bushels	295,565	261,970
Precious stones, unset			677,865
Quicksilver	pounds	211,399	207,195
Rags and other materials for making paper	tons	39,691	2,596,935
Rice	cwts.	210,358	521,960
Seeds:			
Flax or linseed	quarters	22,860	240,435
Unenumerated—			
For expressing oil therefrom	do.	16,715	166,975
Not for oil	cwts.	36,257	102,470
Silk:			
Knubs or husks of silk and waste	do.	4,403	255,644
Raw	pounds	13,898	52,830
Manufactures			166,880
Skins:			
Goat, undressed	number	6,765,043	3,087,275
Sheep	do.	1,694,976	609,795
Skins and furs of all sorts	do.	11,162,070	1,170,695
Spices of all sorts	pounds	10,255,574	1,146,245
Spirits, not sweetened, of all sorts	proof gallons	45,622	79,245
Sponge	pounds	90,290	85,610
Sugar, unrefined	cwts.	22,308	82,185
Tea	pounds	2,575,333	629,725

Table showing the exports to the United States in 1891—Continued.

Articles.	Quantity.	Value.
Foreign and colonial produce—Continued.		
Tobacco, unmanufactured.....pounds...	231,131	$61,280
Toys.....	.....	48,755
Vegetables, unenumerated.....	.....	87,610
Wines.....gallons...	33,090	121,245
Wood (furniture, veneers, and hard woods).....tons...	2,423	128,910
Wool:		
Sheep or lambs'.....pounds...	80,234,154	14,386,235
Other kinds, and flocks.....do.....	847,268	130,285
Woolen manufactures.....	.....	3,344,835
All other articles.....	.....	5,899,910
Total foreign and colonial produce.....	.....	67,607,970
Grand total.....	.....	205,330,735

Table showing increase or decrease in exports to the United States in 1891 as compared with 1890.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
British and Irish produce.				
Alkali.....cwts...	.....	270,900	$200,525	.....
Animals:				
Horses.....number...	.....	396	.....	$151,040
Unenumerated.....	.....	.....	19,375	.....
Apparel and haberdashery.....	.....	.....	.....	799,000
Arms, ammunition, and military stores.....	.....	.....	.....	204,905
Bags and sacks, empty.....dozens...	.....	16,102	.....	8,545
Beer and ale.....barrels...	.....	4,433	.....	129,435
Bleaching materials.....cwts...	26,400	.....	293,705	.....
Books, printed.....do.....	4,375	.....	164,645	.....
Caoutchouc, manufactures of.....	.....	.....	12,015	.....
Cement.....tons...	.....	25,466	.....	316,345
Chemical products and preparations, including dyestuffs..	.....	.....	.....	29,180
Clay and manufactures of.....	.....	.....	63,225	.....
Clocks, watches, and parts thereof.....	.....	.....	22,970	.....
Coal, cinders, and fuel.....tons...	186,599	.....	596,190	.....
Coal, products of (including naphtha, paraffin, paraffin oil, and petroleum).....	.....	.....	29,180	.....
Cordage and twine.....cwts...	.....	7,060	.....	72,135
Cotton yarn.....pounds...	285,700	.....	241,195	.....
Cottons:				
Entered by the yard.....yards...	.....	4,075,200	17,045	.....
Entered at value.....	.....	.....	.....	1,938,865
Earthenware and china ware.....	.....	.....	.....	11,980
Flax and hemp, dressed and undressed.....cwts...	1,348	.....	.....	37,675
Furniture, cabinet, and upholstery wares.....	.....	.....	4,060	.....
Glass manufactures.....	.....	.....	.....	17,670
Hardware and cutlery, unenumerated.....	.....	.....	.....	758,160
Hats of all sorts.....dozens...	.....	15,359	.....	102,980
Hides, raw.....cwts...	.....	19,121	.....	170,315
Implements and tools.....	.....	.....	.....	33,885
Instruments and apparatus (surgical, anatomical, and scientific).....	.....	.....	.....	37,225
Jute:				
Yarn.....pounds...	.....	8,775,600	.....	529,470
Manufactures (piece goods).....yards...	20,231,300	.....	406,985	.....

Table showing increase or decrease in exports to the United States, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
British and Irish produce—Continued.				
Leather, wrought and unwrought				$80,450
Linen yarn ... pounds		699,900		70,065
Linens:				
Entered by the yard ... yards		17,622,900		1,918,965
Entered at value				677,970
Machinery and millwork			$1,343,900	
Manure			205,000	
Medicines, drugs, and medicinal preparations				292,520
Metals:				
Iron, wrought and unwrought ... tons		90,040		1,062,015
Copper, wrought and unwrought ... cwts		3,819		54,635
Tin, unwrought ... do		1,691		39,585
Unenumerated and manufactures thereof				200,520
Oil and floor cloth ... square yards		292,600	4,530	
Painters' colors and materials			16,330	
Paper of all sorts ... cwts		7,380		100,365
Pickles, vinegar, sauces, etc				325,860
Prints, engravings, drawings, etc			24,205	
Provisions, including meat				14,555
Rags and other materials for making paper ... tons		3,664		244,130
Salt ... do		26,542		100,510
Seeds of all sorts ... cwts		5,649		43,230
Silk:				
Thrown, twist, or yarn			968,305	
Manufactures				2,921,800
Skins and furs of all sorts			72,470	
Soap ... cwts		3,666		27,475
Stationery, other than paper				23,180
Stones and slates				143,775
Sugar, refined and candy ... cwts	53,905		178,755	
Telegraphic wires and apparatus				209,825
Wool:				
Sheep and lambs', raw and undressed ... pounds		2,884,600		367,885
Noils, waste, carded or combed, and tops ... do		3,747,300		926,605
Woolen and worsted yarn ... do		580,100		382,770
Yarn (alpaca, mohair, and other sorts) ... do		247,000		76,235
Woolens and worsteds:				
Entered by the yard ... yards		29,865,000		9,207,920
Entered at value				640,785
All other articles				2,462,385
Total British and Irish produce				22,617,895
Foreign and colonial produce.				
Animals (horses) ... number		225	23,680	
Art, works of (including pictures)			29,055	
Bristles ... pounds	90,617		102,830	
Caoutchouc ... cwts	12,540		532,365	
Chemical manufactures and products, unenumerated				266,305
China ware and earthenware ... cwts	1,044			15,230
Cocoa ... pounds	370,319		92,040	
Coffee ... cwts		54,619		1,064,305
Cordage, twine, and cable yarn			9,030	
Cotton:				
Raw ... cwts	57,362		862,715	
Manufactures				82,485

Table showing increase or decrease in exports to the United States, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Foreign and colonial produce—Continued.				
Drugs:				
Peruvian bark.....cwts...	2,702	.....	$869	.....
Opium.....pounds...	.....	14,224	.....	$102,455
Unenumerated.....	.....	.....	.....	211,650
Dyeing or tanning stuffs:				
Cochineal.....cwts...	375	.....	13,030	.....
Cutch and gambier.....tons...	.....	1,063	.....	210,050
Indigo.....cwts...	.....	106,134	.....	530,670
Unenumerated.....do.....	21,253	.....	56,265	.....
Farinaceous substances.....	.....	.....	.....	89,125
Feathers:				
For beds.....cwts...	547	.....	14,085	.....
Ornamental.....pounds...	.....	182,610	.....	671,920
Fish, cured or salted.....cwts...	.....	17,076	.....	29,965
Flax (dressed, undressed, and tow or codilla of flax).do.....	9,515	.....	116,925	.....
Fruits:				
Almonds.....do.....	3,853	.....	51,590	.....
Currants.....do.....	.....	9,835	.....	43,205
Figs and fig cakes.....do.....	.....	2,459	.....	260
Nuts used as fruit.....	.....	.....	.....	196,460
Oranges and lemons.....bushels...	.....	107,649	.....	116,870
Raisins.....cwts...	.....	17,336	.....	125,395
Unenumerated—				
Raw.....bushels...	.....	13,722	.....	66,850
Dried.....cwts...	16,403	.....	12,615	.....
Glass of all kinds.....do.....	.....	19,771	.....	66,405
Gum:				
Lac, seed, shell, stick, and dye.....do.....	14,245	.....	149,260	.....
Of all other sorts.....do.....	146	.....	.....	6,560
Hair:				
Goats' hair or wool.....pounds...	761,672	.....	330,810	.....
All other sorts.....	.....	.....	.....	166,145
Hemp (dressed, undressed, and tow or codilla of hemp).....cwts...	214,247	.....	1,849,980	.....
Hides, raw.....	.....	.....	.....	544,075
Hops.....cwts...	.....	43,377	.....	37,040
Ivory (teeth of elephants, sea cows, etc.).....do.....	982	.....	.....	79,860
Jute.....tons...	.....	992	.....	31,790
Lace.....	.....	.....	.....	100,230
Leather, dressed and undressed.....pounds...	.....	1,122,276	.....	122,820
Linen manufactures.....	.....	.....	.....	45,210
Metals:				
Iron bars, etc.....tons...	.....	6,865	.....	455,980
Steel, unwrought.....do.....	946	.....	46,520	.....
Iron and steel manufactures, unenumerated...cwts...	6,724	.....	10,510	.....
Lead, pig or sheet.....tons...	.....	1,527	.....	110,365
Tin in blocks, ingots, or slabs.....cwts...	7,229	.....	.....	29,285
Unenumerated, unwrought.....tons...	68	.....	4,550	.....
Onions.....bushels...	.....	9,524	.....	86,025
Precious stones, unset.....	.....	.....	.....	98,195
Quicksilver.....pounds...	.....	1,034,673	.....	684,700
Rags and other materials for paper-making.....tons...	.....	2,137	.....	130,700
Rice.....cwts...	81,654	.....	203,505	.....
Seeds:				
Flax and linseed.....quarters...	.....	47,764	.....	395
Unenumerated—				
For expressing oil.....do.....	.....	5,115	.....	48,670
Not for oil.....cwts...	9,743	.....	37,070	.....

Table showing increase or decrease in exports to the United States, etc.—Continued.

Articles.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Foreign and colonial produce—Continued.				
Silk:				
Knubs or husks of silk and waste.....cwts...	.....	1,678	.....	$5,280
Raw.....pounds...	.....	6,880	.....	23,905
Manufactures.....	.....	.....	.....	73,760
Skins:				
Goat, undressed.....number...	311,534	.....	$87,140	.....
Sheep.....do.....	68,606	.....	124,355	.....
Skins and furs of all other sorts.....do.....	62,800	.....	306,805	.....
Spices of all sorts.....pounds...	.....	681,130	.....	215,820
Spirits, not sweetened, of all sorts.....gallons...	.....	15,242	.....	405
Sponge.....pounds...	.....	17,556	.....	60,865
Sugar, unrefined.....cwts...	.....	144,239	.....	429,755
Tea.....pounds...	.....	1,917,065	.....	376,757
Tobacco, unmanufactured.....do.....	.....	497,777	.....	194,680
Toys.....	.....	.....	.....	50,023
Vegetables, unenumerated.....	.....	.....	.....	99,475
Wine.....gallons...	.....	928	14,300	.....
Wood (furniture, veneers, and hard woods).....tons...	966	.....	20,495	.....
Wool:				
Sheep or lambs'.....pounds...	12,061,400	.....	2,081,565	.....
Other kinds and flocks.....do.....	.....	616,051	.....	210,040
Woolen manufactures.....	.....	.....	.....	1,824,860
All other articles.....	.....	.....	.....	678,795
Total foreign and colonial.....	.....	.....	.....	3,751,450
Grand total.....	.....	.....	.....	26,369,325

DECLARED EXPORTS FOR 1892.

The value of declared exports from the various consular districts in the United Kingdom to the United States for the year ended September 30, 1892, was $168,060,124, a decrease, when compared with the figures for the preceding year, of $8,255,702. This decrease occurred in the first three quarters of the year—the last quarter (ended September 30, 1892) showed an increase of $4,669,927—and may be attributed entirely to the decreased export of tin plates, consequent on the coming into force of the higher rate of duty on those goods in June, 1891. The average annual export of tin plates to the United States for the years previous to 1890 was about $24,000,000; but in the year ended September 30, 1891, the actual amount sent was $30,783,635, of which amount nearly $29,000,000 were shipped in the nine months ended June 30, 1891. Thus the amount forwarded in that year was about $6,000,000 over the average, and, if this amount be added to the total for this year ($17,076,575), it will be seen that the average is still about the same.

Table showing value of exports from the United Kingdom to the United States for the years ended September 30, 1891 and 1892.

District.	Staple.	1892.	1891.	Increase.	Decrease.
Belfast	Linens	$8,776,770.85	$8,330,463.78	$446,307.07	
Birmingham	Hardware	4,144,191.17	4,162,370.12		$18,178.95
Bradford	Stuffs	12,906,783.22	10,958,635.31	1,948,147.91	
Bristol	Woolens	488,114.49	563,468.83		75,354.34
Cardiff	Tin plates	4,562,911.64	13,748,031.31		9,185,119.67
Cork	Beer, ale, and stout	103,694.71	126,274.53		22,579.82
Dublin	do	1,105,974.50	934,952.35	171,022.15	
Dundee	Burlaps	9,441,213.20	9,561,661.74		120,448.54
Dunfermline	Linens	2,114,373.41	1,755,381.70	358,991.71	
Falmouth	China clay	200,109.84	181,929.63	18,180.21	
Glasgow	Cottons	5,799,403.75	6,244,623.95		445,220.20
Huddersfield	Woolens and worsteds	3,218,220.14	3,046,728.85	171,501.29	
Hull	Chemicals	332,501.71	332,699.80		198.09
Leeds	Woolens and worsteds	1,445,277.31	1,796,186.15		350,908.84
Leith	Books	850,794.76	686,888.97	163,905.79	
Liverpool	Chemicals	28,260,497.74	38,819,653.78		10,559,156.04
London		52,307,577.12	49,362,976.80	2,944,600.32	
Manchester	Cottons	12,279,249.56	11,920,526.95	358,722.61	
Newcastle	Chemicals	1,348,904.70	1,740,222.61		391,317.91
Nottingham	Laces	6,622,391.32	5,511,358.61	1,111,032.71	
Plymouth	China clay	408,441.27	287,998.78	120,442.49	
Sheffield	Cutlery	2,350,474.74	2,314,160.49	36,314.25	
Southampton	Skins	50,007.39	74,618.03		24,610.64
Swansea	Tin plates	5,050,593.27		5,050,593.27	
Tunstall	China	3,891,652.62	3,854,053.63	37,598.99	
Total		168,060,124.43	176,315,826.70	12,937,390.77	21,193,093.04

SUMMARY.

Total for year ended September 30, 1891	$176,315,826.70
Total for year ended September 30, 1892	168,060,124.43
Net decrease	8,255,702.27
Decrease in 21 consulates	21,193,093.04
Increase in 14 consulates	12,937,390.77
Net decrease	8,255,702.27

In reviewing the figures from the various consular districts, the effect of the tin-plate export is clearly seen. Thus the decreases in the exports from Liverpool and Cardiff, the chief centers of the tin-plate trade, are, respectively, $10,500,000 and $9,000,000; but the decrease from Cardiff is not so great as it appears at first sight, inasmuch as the district of Swansea has been created out of the Cardiff consular district, and therefore the net decrease, after adding Swansea's figures, is only about $4,000,000. The export of tin plates for the year ended September 30, 1892, was $17,076,575, a decrease of $13,706,060, or $5,500,000 more than the total decrease for the year on all goods exported. If it had not been for the rush to get tin plates through the customs before the higher duty came into force in June, 1891, there would have been an actual increase in declared exports from the United Kingdom to the United States of between $4,000,000 and $5,000,000.

The value of the exports of woolens and worsteds, which was $13,380,599 in 1891, increased to $16,024,584 in 1892—about $2,750,000.

There is also an increase in the exports of linens, as is shown by the figures from Belfast and Dunfermline, which show increases, respectively, of about $500,000 and $350,000. Nottingham, the center of the lace trade, shows an increase of over $1,100,000, and Manchester of $350,000, chiefly in cottons; but Glasgow trade has fallen off by about $450,000, Leeds (woolens) by $350,000, Newcastle by $400,000, and Dundee (burlaps) by $102,000. Sheffield has recovered its trade slightly by about $35,000 on the year.

The exports from London are greater by nearly $3,000,000, the chief increases being in tin, $2,250,000; skins, furs, etc., $1,750,000; wool, $1,060,000; shells, $500,000; drugs, $700,000—most of which, it will be noticed, are raw materials for manufacture. There was also an increase in beer of $230,000; books, of $140,000; gloves, hosiery, etc., $100,000; soaps, $100,000; and straw plait, $150,000. The principal decreases occurred in cement, $500,000; hemp, flax, etc., nearly $1,000,000; metals, over $500,000; precious stones, $1,400,000; and nonspecified articles, $2,650,000.

Table showing value of declared exports to the United States from the various consular districts of the United Kingdom from October 1, 1882, to September 30, 1892.

Districts.	Year ended September 30—	Amount.
Belfast	1883	$8,136,805.43
	1884	6,842,100.73
	1885	7,800,096.65
	1886	8,391,933.19
	1887	8,789,274.12
	1888	9,827,165.47
	1889	9,230,991.36
	1890	9,485,669.59
	1891	8,330,463.78
	1892	8,776,770.85
	Total	85,611,271.17
Birmingham	1883	4,719,827.19
	1884	3,977,812.16
	1885	2,875,388.26
	1886	3,218,881.93
	1887	4,470,593.85
	1888	3,512,590.05
	1889	3,377,050.68
	1890	4,158,756.78
	1891	4,162,370.12
	1892	4,144,191.17
	Total	37,617,468.19
Bradford	1883	9,463,444.93
	1884	13,602,042.51
	1885	11,565,989.95
	1886	18,319,924.26
	1887	16,554,821.28
	1888	19,123,358.29
	1889	22,266,640.77
	1890	23,688,021.63
	1891	20,958,635.31
	1892	12,906,783.22
	Total	158,448,662.15

Table showing value of declared exports to the United States, etc.—Continued.

Districts.	Year ended September 30—	Amount.
Bristol	1883	$174,567.33
	1884	202,126.51
	1885	399,655.00
	1886	463,995.00
	1887	533,273.00
	1888	803,661.00
	1889	373,304.00
	1890	444,765.80
	1891	563,468.83
	1892	488,114.49
	Total	4,446,930.96
Cardiff	1883	1,672,831.14
	1884	4,373,767.29
	1885	3,785,602.65
	1886	2,378,539.83
	1887	3,758,435.38
	1888	5,400,611.49
	1889	10,490,680.32
	1890	11,157,240.35
	1891	13,748,031.31
	1892	4,562,911.64
	Total	61,328,651.40
Cork	1883	86,395.52
	1884	71,631.23
	1885	65,254.28
	1886	256,836.22
	1887	139,396.30
	1888	187,334.44
	1889	112,578.87
	1890	125,013.70
	1891	126,274.53
	1892	103,694.71
	Total	1,214,409.80
Dublin	1883	903,478.07
	1884	937,414.91
	1885	761,782.04
	1886	1,032,404.87
	1887	1,130,616.11
	1888	1,262,009.09
	1889	986,454.56
	1890	1,168,728.41
	1891	934,952.35
	1892	1,105,974.50
	Total	10,243,814.91
Dundee	1883	7,917,358.37
	1884	7,666,359.66
	1885	6,335,495.71
	1886	6,858,574.36
	1887	7,220,197.56
	1888	8,170,227.22
	1889	9,377,144.93
	1890	10,045,296.86
	1891	9,561,661.74
	1892	9,441,213.20
	Total	82,593,589.61

Table showing value of declared exports to the United States, etc.—Continued.

Districts.	Year ended September 30—	Amount.
Dunfermline	1883	£2,139,489.62
	1884	1,846,596.28
	1885	1,598,759.89
	1886	1,659,097.14
	1887	1,790,990.94
	1888	2,096,263.11
	1889	2,234,920.27
	1890	2,210,262.57
	1891	1,755,381.70
	1892	2,114,373.41
	Total	19,446,134.93
Falmouth	1883	53,684.43
	1884	104,732.18
	1885	98,655.54
	1886	59,043.13
	1887	46,103.13
	1888	77,471.67
	1889	126,114.60
	1890	138,701.76
	1891	181,929.63
	1892	200,109.84
	Total	1,086,545.91
Glasgow	1883	9,662,722.89
	1884	7,381,874.93
	1885	5,285,319.35
	1886	6,549,455.96
	1887	7,863,682.55
	1888	9,320,713.02
	1889	8,166,578.88
	1890	7,964,485.41
	1891	6,244,623.95
	1892	5,799,403.75
	Total	74,238,860.68
Gloucester	1883	198,171.52
	1884	212,375.36
	1885	154,930.79
	1886	140,753.74
	1887	(*)
	1888	(*)
	1889	(*)
	1890	(*)
	1891	(*)
	1892	(*)
	Total	706,231.41
Huddersfield	1883	(†)
	1884	(†)
	1885	(†)
	1886	(†)
	1887	(†)
	1888	(†)
	1889	(†)
	1890 (6 months)	2,486,120.90
	1891	3,046,718.85
	1892	3,218,220.14
	Total	8,751,059.89

* Now an agency of the Bristol consulate. † Returns included in figures of Leeds consulate.

Table showing value of declared exports to the United States, etc.—Continued.

Districts.	Year ended September 30—	Amount.
Hull	1883	$372,324.57
	1884	459,468.67
	1885	433,112.51
	1886	249,066.87
	1887	281,673.44
	1888	410,568.37
	1889	510,816.07
	1890	680,017.93
	1891	332,699.80
	1892	332,501.71
	Total	4,061,249.94
Leeds	1883	4,908,734.53
	1884	5,377,193.16
	1885	3,884,045.99
	1886	5,179,506.35
	1887	5,854,348.67
	1888	5,921,449.57
	1889	6,028,425.98
	1890	4,144,232.49
	1891	1,796,186.15
	1892	1,445,277.31
	Total	44,129,400.20
Leith	1883	926,720.92
	1884	993,368.76
	1885	895,903.90
	1886	843,961.62
	1887	805,151.75
	1888	1,144,151.66
	1889	1,064,708.81
	1890	1,031,857.88
	1891	686,888.97
	1892	830,794.76
	Total	9,223,498.63
Liverpool	1883	32,594,517.92
	1884	28,728,569.10
	1885	26,677,507.59
	1886	33,532,938.68
	1887	32,801,068.76
	1888	35,136,418.55
	1889	33,896,825.14
	1890	39,028,754.69
	1891	38,819,653.78
	1892	28,260,497.74
	Total	329,476,751.95
London	1883	48,015,268.99
	1884	46,003,504.86
	1885	37,323,547.79
	1886	51,632,923.19
	1887	55,900,183.80
	1888	50,889,914.82
	1889	47,385,928.17
	1890	56,830,421.06
	1891	49,362,976.80
	1892	52,307,577.12
	Total	495,652,166.20

Table showing value of declared exports to the United States, etc.—Continued.

Districts.	Year ended September 30—	Amount.
Londonderry	1883	$2,816.81
	1884	2,016.97
	1885	1,401.35
	1886	4,235.91
	1887	(*)
	1888	(*)
	1889	(*)
	1890	(*)
	1891	(*)
	1892	(*)
	Total	10,471.04
Manchester	1883	14,564,425.85
	1884	13,479,474.91
	1885	10,583,050.34
	1886	11,281,578.09
	1887	10,781,705.59
	1888	11,075,448.91
	1889	12,099,290.10
	1890	13,813,775.50
	1891	11,920,516.95
	1892	12,279,249.56
	Total	121,878,515.80
Newcastle	1883	2,459,253.23
	1884	2,202,483.25
	1885	1,786,211.85
	1886	1,940,896.69
	1887	3,451,490.86
	1888	3,005,493.87
	1889	1,998,870.04
	1890	2,371,660.65
	1891	1,740,222.61
	1892	1,348,904.70
	Total	22,305,487.75
Nottingham	1883	8,382,569.89
	1884	6,536,813.48
	1885	5,288,572.34
	1886	5,731,355.84
	1887	5,862,050.70
	1888	5,660,807.50
	1889	5,784,667.42
	1890	6,961,701.49
	1891	5,511,338.61
	1892	6,622,391.32
	Total	62,341,268.59
Plymouth	1883	152,014.43
	1884	245,087.15
	1885	90,727.72
	1886	97,866.35
	1887	133,132.42
	1888	221,143.12
	1889	237,204.39
	1890	283,740.07
	1891	287,998.78
	1892	408,441.27
	Total	2,157,355.65

*Included in returns from Belfast consulate.

Table showing value of declared exports to the United States, etc.—Continued.

Districts.	Year ended September 30—	Amount.
Sheffield	1883	$3,947,766.91
	1884	3,069,771.88
	1885	2,186,745.21
	1886	2,546,092.72
	1887	4,120,579.95
	1888	3,321,586.44
	1889	2,964,488.41
	1890	3,364,415.14
	1891	2,314,160.49
	1892	2,350,474.74
	Total	30,186,081.88
Southampton	1883	99,396.63
	1884	148,558.88
	1885	5,974.05
	1886	6,437.48
	1887	7,372.55
	1888	14,731.96
	1889	7,046.47
	1890	7,735.32
	1891	74,618.03
	1892	50,007.39
	Total	421,877.76
Swansea	1883	(*)
	1884	(*)
	1885	(*)
	1886	(*)
	1887	(*)
	1888	(*)
	1889	(*)
	1890	(*)
	1891	(*)
	1892	5,050,593.27
	Total	5,050,593.27
Tunstall	1883	4,075,490.89
	1884	2,850,551.83
	1885	2,809,865.56
	1886	3,136,018.95
	1887	3,445,178.61
	1888	3,821,073.25
	1889	3,755,869.02
	1890	3,916,123.71
	1891	3,854,053.63
	1892	3,891,652.62
	Total	35,555,878.07

* Included in returns from Cardiff consulate.

SUMMARY.

1883	$165,207,987.61
1884	157,314,696.65
1885	132,713,595.89
1886	165,512,318.36
1887	174,741,320.30
1888	180,344,192.85
1889	182,466,605.26
1890	205,507,499.69
1891	176,315,826.71
1892	168,060,124.43
Total for 10 years ended September 30, 1892	1,708,184,167.74

Recapitulation for the ten years ended September 30, 1892.

London	$495,652,166.20	Dublin	$10,243,814.91
Liverpool	329,476,752.95	Leith	9,223,498.63
Bradford	158,448,662.15	Huddersfield*	8,751,059.89
Manchester	121,878,515.80	Swansea†	5,050,593.27
Belfast	85,621,271.27	Bristol	4,446,930.96
Dundee	82,593,529.61	Hull	4,061,249.94
Glasgow	74,238,860.68	Plymouth	2,157,355.65
Nottingham	62,341,268.59	Cork	1,214,409.80
Cardiff	61,328,652.40	Falmouth	1,086,545.91
Leeds	44,129,400.20	Gloucester‡	706,231.41
Birmingham	37,617,468.19	Southampton	421,877.76
Tunstall	35,555,878.07	Londonderry‡	10,471.04
Sheffield	30,186,081.88	Total	1,708,184,167.74
Newcastle	22,305,487.75		
Dunfermline	19,446,134.93		

* These figures represent only the declared value of exports for the two years and six months ended September 30, 1892, Huddersfield having previously been an agency of the Leeds consulate.

† These figures represent only the declared value of exports from February 26 to September 30, 1892, Swansea having previously been an agency of the Cardiff consulate.

‡ These figures represent only the declared value of exports for the four years ended September 30, 1886, those for the years 1887 to 1892 being embodied in the reports from Bristol and Belfast, of which consulates Gloucester and Londonderry are respectively agencies.

Recapitulation for the year ended September 30, 1892.

London	$52,307,577.12	Dunfermline	$2,214,373.41
Liverpool	28,260,497.74	Leeds	1,445,277.31
Bradford	12,906,783.22	Newcastle	1,348,904.70
Manchester	12,279,249.56	Dublin	1,105,974.50
Dundee	9,441,213.20	Leith	850,794.76
Belfast	8,776,770.85	Bristol	488,114.49
Nottingham	6,622,391.32	Plymouth	408,441.27
Glasgow	5,799,403.75	Hull	332,501.71
Swansea*	5,050,593.27	Falmouth	200,109.84
Cardiff	4,562,911.64	Cork	103,694.71
Birmingham	4,144,191.17	Southampton	50,007.39
Tunstall	3,891,652.62	Total	168,060,124.43
Huddersfield	3,218,220.14		
Sheffield	2,350,474.74		

* These figures represent only the declared value of exports from February 26 to September 30, Swansea having previously been an agency of the Cardiff consulate.

SHIPPING.

The total number of British and foreign sailing and steam vessels with cargoes and in ballast from foreign countries and British possessions that entered at ports in the United Kingdom in 1891 was 61,380 of 36,859,015 tons, a decrease of 1,455 in the number of vessels, but an increase of 23,303 tons, of which number 37,363 vessels of 26,637,187 tons were British and 24,017 vessels of 10,221,828 tons were foreign.

The total number of vessels cleared from ports in the United Kingdom for foreign countries and British possessions with cargoes and in ballast was 62,202 of 37,953,605 tons, a decrease of 974 vessels, but an increase of 505,448 tons, of which number 37,613 vessels of 27,320,248 tons were British and 24,589 of 10,633,357 tons were foreign.

The number of sailing vessels employed in the home and foreign trades carrying the British flag in 1891 was 11,114 of 2,847,501 tons, manned by

81,189 persons, a decrease of 456 vessels, 46,071 tons, and 3,029 men compared with the preceding year. Steam vessels numbered 6,129 of 5,317,040 tons, manned by 159,291 persons, an increase of 274 vessels, 295,276 tons, and 7,401 men compared with 1890.

The total number of vessels built in the United Kingdom (exclusive of vessels built for foreigners) in 1891 was 930 of 670,599 tons, an increase of 72 vessels and 18,586 tons compared with 1891. The total number of vessels built for foreigners in 1891 was 228 of 138,894 tons, as compared with 227 vessels of 160,625 tons in 1890.

The total number of vessels belonging to the United Kingdom totally lost in 1890 was 528 of 206,734 tons, of which 394 were sailing vessels and 134 steamers, an increase of 81 compared with 1889. The number of passengers lost was 172, and increase of 116; seamen, 1,372, an increase of 383.

Table showing the number and tonnage of sailing vessels of each nationality that entered and cleared with cargoes and in ballast from and to foreign countries and British possessions at ports in the United Kingdom.

ENTERED.

Flag.	1890.		1891.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	57	35,493	53	32,498	.....	.....	4	2,995
Belgian	13	2,664	9	1,065	.....	.....	4	1,599
British	6,314	2,437,265	5,489	2,210,094	.....	.....	825	227,171
Danish	1,782	260,430	1,654	243,209	.....	.....	128	17,221
Dutch	490	88,244	505	87,572	15	.....	.....	672
French	1,443	183,247	1,526	178,776	83	.....	.....	4,471
German	1,693	483,811	1,664	471,386	.....	.....	29	12,425
Italian	273	168,220	235	153,806	.....	.....	38	14,414
Norwegian	5,156	1,902,353	4,571	1,729,754	.....	.....	585	172,599
Russian	610	194,123	539	170,429	.....	.....	71	24,694
Spanish	67	20,032	50	17,252	.....	.....	17	2,780
Swedish	1,247	345,179	1,248	347,213	1	2,034	.....	.....
American	58	96,686	69	89,410	11	.....	.....	7,276
Other countries	30	13,387	27	13,406	.....	19	3	.....
Total	19,233	6,231,134	17,639	5,745,870	.....	.....	1,594	485,264

CLEARED.

Austrian	59	36,613	52	33,405	.....	.....	7	3,208
Belgian	2	1,249	4	2,045	2	796	.....	.....
British	5,877	2,512,072	5,155	2,375,943	.....	.....	722	136,129
Danish	1,959	284,659	1,847	272,048	.....	.....	92	12,611
Dutch	478	45,184	505	84,445	27	39,361	.....	.....
French	1,261	184,236	1,311	167,316	50	.....	.....	16,920
German	1,737	507,417	1,715	500,602	.....	.....	22	6,815
Italian	276	171,513	238	154,763	.....	.....	38	16,750
Norwegian	5,255	1,928,898	4,849	1,855,925	.....	.....	306	72,973
Russian	610	188,388	556	175,861	.....	.....	54	12,527
Spanish	69	21,965	55	18,993	.....	.....	14	2,972
Swedish	1,241	345,616	1,298	354,352	57	8,736	.....	.....
American	49	85,244	67	92,127	18	6,883	.....	.....
Other countries	34	14,732	30	13,841	.....	.....	4	891
Total	18,887	6,367,726	17,682	6,121,666	.....	.....	1,205	206,060

Table showing the number and tonnage of steam vessels of each nationality that entered and cleared with cargoes and in ballast from and to foreign countries and British possessions at ports in the United Kingdom.

ENTERED.

Flag.	1890.		1891.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	31	24,069	37	32,383	6	8,314	.....	.....
Belgian	1,237	446,806	1,283	478,038	46	32,232	.....	.....
British	32,463	24,340,690	31,874	24,427,093	.....	86,403	589	.....
Danish	1,320	641,389	1,331	675,010	11	23,621	.....	.....
Dutch	1,163	864,451	1,185	870,493	22	6,042	.....	.....
French	1,669	650,792	1,905	749,321	336	98,529	.....	.....
German	2,757	1,678,725	2,775	1,679,784	18	1,059	.....	.....
Italian	32	51,628	54	83,339	22	31,711	.....	.....
Norwegian	1,294	575,583	1,501	721,358	207	145,775	.....	.....
Russian	125	76,120	109	69,218	.....	.....	16	6,902
Spanish	584	621,597	580	593,826	.....	.....	4	27,771
Swedish	775	437,886	961	522,303	186	84,417	.....	.....
American	23	50,035	30	67,435	7	17,400	.....	.....
Other countries	130	154,827	116	143,344	.....	.....	14	11,283
Total	43,603	30,604,578	43,741	31,113,145	139	508,567	.....	.....

CLEARED.

Austrian	29	21,656	43	35,655	14	13,999	.....	.....
Belgian	1,213	422,390	1,274	471,115	61	48,725	.....	.....
British	32,972	24,683,085	32,458	24,944,305	.....	261,220	514	.....
Danish	1,361	667,524	1,361	699,604	.....	32,080	.....	.....
Dutch	1,151	863,012	1,180	901,344	29	38,332	.....	.....
French	1,696	668,699	1,893	755,687	197	86,988	.....	.....
German	2,792	1,723,002	2,832	1,748,702	40	25,700	.....	.....
Italian	34	52,826	57	84,814	23	31,988	.....	.....
Norwegian	1,310	593,967	1,507	738,501	197	134,534	.....	.....
Russian	149	92,492	134	88,280	.....	.....	15	4,212
Spanish	597	622,526	593	603,252	.....	.....	4	19,274
Swedish	807	447,151	983	538,837	176	81,686	.....	.....
American	29	59,968	25	57,072	.....	.....	4	2,896
Other countries	149	162,133	180	184,771	31	22,638	.....	.....
Total	44,289	31,080,431	44,520	31,851,939	231	771,508	.....	.....

Table showing the number and tonnage of sailing and steam vessels of each nationality that entered and cleared with cargoes and in ballast from and to foreign countries and British possessions at ports in the United Kingdom.

ENTERED.

Flag.	1890.		1891.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	88	59,562	90	64,881	2	5,319	.....	.....
Belgian	1,250	449,470	1,292	479,103	42	29,633	.....	.....
British	38,777	26,777,955	37,363	26,637,187	.....	.....	1,414	140,768
Danish	3,102	901,819	2,985	918,219	.....	16,400	117	.....
Dutch	1,652	952,695	1,690	958,065	38	5,370	.....	.....
French	3,112	834,039	3,431	928,097	319	94,058	.....	.....
German	4,450	2,162,536	4,439	2,151,170	.....	.....	11	11,366
Italian	305	219,848	289	237,145	.....	17,297	16	.....
Norwegian	6,450	2,477,936	6,072	2,451,112	.....	.....	378	26,824
Russian	735	270,243	648	239,647	.....	.....	87	30,596
Spanish	651	631,629	630	611,078	.....	.....	21	20,551
Swedish	2,022	783,045	2,909	869,516	887	86,471	.....	.....
American	81	146,721	99	156,845	18	10,124	.....	.....
Other countries	160	168,214	143	156,950	.....	.....	17	11,264
Total	62,835	36,835,712	61,380	36,859,015	.....	23,303	1,455	.....

CLEARED.

Austrian	88	58,269	95	69,060	7	10,791	.....	.....
Belgian	1,215	423,639	1,278	473,160	63	49,521	.....	.....
British	38,849	27,195,157	37,613	27,320,248	.....	125,091	1,236	.....
Danish	3,300	952,183	3,208	971,652	.....	19,469	92	.....
Dutch	1,629	948,196	1,685	985,789	56	37,593	.....	.....
French	2,957	852,935	3,204	923,003	247	70,068	.....	.....
German	4,529	2,230,419	4,547	2,249,304	18	18,885	.....	.....
Italian	320	224,339	295	239,577	.....	15,238	25	.....
Norwegian	6,565	2,522,865	6,356	2,594,426	.....	71,561	209	.....
Russian	759	280,880	690	264,141	.....	.....	69	16,739
Spanish	666	644,431	648	622,245	.....	.....	18	22,186
Swedish	2,048	792,767	2,281	893,189	233	100,422	.....	.....
American	78	145,212	92	149,199	14	3,987	.....	.....
Other countries	183	176,865	210	198,612	27	21,745	.....	.....
Total	63,176	37,448,157	62,202	37,953,605	.....	505,448	974	.....

Table showing the number and tonnage of British and foreign vessels (sailing and steam) entered and cleared with cargoes and in ballast at the principal ports in the United Kingdom from and to foreign countries and British possessions.

ENTERED.

Port.	1890.		1891.		Increase.		Decrease.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Belfast	239	243,255	358	248,048	19	4,793	.....	.....
Cardiff	4,074	2,173,699	4,287	3,425,891	213	1,252,192	.....	.....
Glasgow	1,025	1,121,700	879	995,385	.....	.....	146	126,315
Hull	3,250	1,997,138	3,290	2,087,871	40	90,733	.....	.....
Kirkcaldy	1,150	387,107	1,258	434,699	108	47,592	.....	.....
Leith	1,478	706,491	1,573	778,978	95	72,487	.....	.....
Liverpool	4,646	5,782,351	4,405	5,866,920	.....	84,579	241	.....
London	10,575	7,708,705	10,218	7,637,965	.....	.....	357	70,740
Newport	1,396	920,560	1,100	736,145	.....	.....	296	184,415
Southampton	1,856	888,352	1,843	918,068	.....	29,716	13	.....
Sunderland	1,386	725,859	1,330	756,300	.....	30,441	56	.....
Tyne ports	6,044	3,401,210	6,057	3,568,293	13	167,077	.....	.....
Other ports	25,616	9,779,279	24,782	9,404,452	.....	.....	834	364,827
Total	62,835	36,835,712	61,380	36,859,015	.....	13,303	1,455	.....

CLEARED.

Belfast	147	86,924	119	81,179	.....	.....	28	5,745
Cardiff	6,452	5,641,511	6,700	5,960,444	248	318,933	.....	.....
Glasgow	1,531	1,697,662	1,424	1,661,672	.....	.....	107	25,990
Hull	2,858	1,655,996	2,923	1,725,805	65	69,809	.....	.....
Kirkcaldy	2,003	716,540	2,054	740,305	51	23,765	.....	.....
Leith	1,263	626,573	1,354	666,602	91	40,029	.....	.....
Liverpool	4,030	5,159,450	3,841	5,220,988	.....	61,538	189	.....
London	7,956	5,772,062	7,648	5,787,552	.....	15,490	308	.....
Newport	1,831	1,316,430	1,497	1,101,318	.....	.....	344	205,112
Southampton	1,726	813,133	1,698	833,508	.....	20,375	28	.....
Sunderland	1,648	956,266	1,575	960,018	.....	3,752	73	.....
Tyne ports	8,155	5,010,098	8,354	5,308,201	199	288,103	.....	.....
Other ports	23,576	7,995,511	23,015	7,906,013	.....	.....	561	89,498
Total	63,176	37,448,157	62,202	37,953,605	.....	505,448	974	.....

Table showing the number and tonnage of registered vessels of the United Kingdom, Isle of Man, and Channel Islands which were employed in the home and foreign trade, and the number of persons employed therein, including Lascars and Asiatics.

Description.	Number of vessels.	Tons.	Persons employed.		
			British.	Foreign.	Total.
1889.					
Sailing vessels	11,969	2,976,346	75,282	12,370	87,765
Steam vessels	5,585	4,664,808	108,191	14,471	142,498
Total	17,554	7,641,154	183,473	26,841	230,263
1890.					
Sailing vessels	11,570	2,893,572	72,199	11,809	84,218
Steam vessels	5,855	5,021,764	113,948	15,418	151,890
Total	17,425	7,915,336	186,147	27,227	236,108
1891.					
Sailing vessels	11,114	2,847,501	68,583	12,436	81,189
Steam vessels	6,129	5,317,040	117,593	17,831	159,291
Total	17,243	8,164,541	186,176	30,267	240,480

Table showing the number and net tonnage of vessels built in the United Kingdom (exclusive of vessels built for foreigners).

[The figures are those of the ships finished in the years mentioned.]

Description.	Iron.*		Steel.		Wood.†		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
1889.								
Sailing vessels	24	15,118	62	93,271	191	9,092	277	117,481
Steam vessels	113	35,386	445	518,074	23	553	‡582	554,024
Total	137	50,504	507	611,345	214	9,645	‡859	671,505
1890.								
Sailing vessels	25	12,653	70	101,270	182	9,301	277	123,224
Steam vessels	125	32,818	424	495,274	32	697	581	528,789
Total	150	45,471	494	596,544	214	9,998	858	652,013
1891.								
Sailing vessels	25	6,592	116	177,291	167	8,034	308	191,917
Steam vessels	181	16,030	419	462,089	22	563	622	478,682
Total	206	22,622	535	639,380	189	8,597	930	670,599

* Including vessels built partly of iron and partly of steel.

† Including composite vessels.

‡ Including a vessel built of delta metal.

Table shewing the number and net tonnage of iron, steel, and wooden sailing and steam vessels built at ports in the United Kingdom for foreigners in 1890 and 1891.

Year.	Sailing.		Steam.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
War.						
1890	.....	.....	20	3,437	20	3,437
1891	.....	.....	13	300	13	300
Decrease	.....	.....	7	3,137	7	3,137
Mercantile.						
1890	29	25,468	178	131,720	207	157,188
1891	67	37,693	148	100,901	215	138,594
Increase	38	12,225	.....	.....	8	.....
Decrease	.....	.....	30	20,819	.....	18,594
Summary.						
1890	29	25,468	198	135,157	227	160,635
1891	67	37,693	161	101,201	228	138,894
Increase	38	12,225	.....	.....	1	.....
Decrease	.....	.....	37	33,956	.....	21,731

Table showing the number and tonnage of vessels belonging to the United Kingdom totally lost (exclusive of vessels of the royal navy) and number of passengers and seamen lost.

Year.	Vessels lost.		Persons lost.		
	Number.	Tons.	Seamen.	Passengers.	Total.
Sailing.					
1889	332	93,343	623	21	634
1890	394	93,870	884	25	909
Increase	63	527	271	4	265
Steam.					
1889	116	81,191	376	35	411
1890	134	112,864	488	147	635
Increase	18	31,665	112	112	224
Summary.					
1889	447	174,542	989	56	1,045
1890	528	206,734	1,372	172	1,544
Increase	81	32,192	383	116	499

NOTE.—The losses of unregistered vessels are included in the above figures.

AGRICULTURE.

The total area under cultivation in the United Kingdom showed an increase of 134,000 acres in 1891—from 48,045,000 to 48,179,000 acres; but this increase was almost entirely in permanent pasture, nearly all other crops showing a decreased cultivation—corn crops of 130,000 acres and green crops of 24,000 acres.

There was an increase in the number of horses of 60,000, cattle of 550,000, and sheep of 2,000,000, but a decrease in the number of pigs of 90,000.

The estimated average yield per acre of wheat in 1891 was 31.3 bushels, producing 74,742,700 bushels. The price varied from $7.84 to $9.81 per imperial quarter, or an average for the year of $9, against $7.78 in 1890.

The average yield per acre of barley was 34.72 bushels, producing 79,555,089 bushels. The average price per quarter for the year was $6.86, against $6.98 in 1890.

Of oats, the average yield per acre was 40.46 bushels, producing 166,472,428 bushels, the average price of which was $4.86 per quarter, as against $4.52 in 1890.

Table showing the acreage of crops in 1890 and 1891.

Crops.	1890.	1891.
	Acres.	*Acres.*
Cultivated area	48,045,161	48,179,470
Wheat	2,483,595	2,392,245
Barley	2,300,994	2,298,978
Oats	4,137,790	4,128,127
Rye	69,458	60,148
Beans	362,242	359,039
Peas	220,170	204,972
Potatoes	1,321,272	1,296,763
Turnips and Swedes	2,281,220	2,227,050
Other	961,653	986,840
Flax	99,326	76,477
Hops	53,961	56,142
Bare fallow	524,112	451,203
Clover, sainfoin, and grasses under rotation	6,097,210	6,013,685
Permanent pasture	27,115,425	27,567,663

Table showing the number of live stock in 1890 and 1891.

Description.	1890.	1891.
	Number.	*Number.*
Horses	1,964,911	2,026,170
Cattle	10,789,858	11,343,686
Sheep	31,667,195	33,533,988
Pigs	4,362,040	4,272,764

SEA FISHERIES.

The total value of the sea fisheries of the United Kingdom in 1891, including shellfish, was $35,045,000, to which should be added the value of salmon caught and landed, amounting to $2,805,000, making a gross total of $37,850,000, as compared with $36,825,000 in the previous year. This is the first value, taken at places of landing, and by the time it is placed on the market the value may be taken as doubled. The totals are as follows:

England and Wales		$24,355,000
Scotland	$9,150,000	
Salmon	1,040,000	
		10,190,000
Ireland	1,540,000	
Salmon	1,765,000	
		3,305,000
Total		37,850,000

It is noticed that the tendency in the fish supplies is for the quantity landed to remain stationary, while prices advance; thus in 1888 the value of fish landed was given at $29,077,295. The advance in price takes place chiefly in the better kinds of fish, such as turbot, halibut, soles, etc. The chief rise in prices in 1891, as compared with 1890, was as follows:

Fish.	Price.	
	1890.	1891.
	Per cwt.	*Per cwt.*
Brill	$11.67	$11.72
Turbot	17.80	17.87
Haddock	2.34	2.47
Halibut	7.30	10.58
Mackerel	3.76	4.73
Herring	1.73	2.03

The value of the fish imported into the United Kingdom in 1891 was about $11,500,000, and the value of those exported was $8,550,000, thus making the value of fish consumed in the United Kingdom upwards of $40,000,000. This shows a considerable increase in late years in the value of fish consumed, as in 1886 the total value of fish retained in this country for consumption was only about $30,000,000.

Table showing the quantity, value, and average price of fish landed on the coasts of the United Kingdom in 1891.

Description.	England and Wales.			Scotland.		
	Quantity.	Value.	Average price.	Quantity.	Value.	Average price.
	Cwts.		*Per pound.*	*Cwts.*		*Per pound.*
Soles	82,668	$2,585,730	0.26\frac{8}{10}$	17,739	$151,070	0.07\frac{2}{10}$
Turbot	56,875	1,045,030	.15$\frac{7}{100}$	5,024	86,055	.14$\frac{88}{100}$
Other prime fish	55,325	727,095	.11$\frac{88}{100}$	229	6,240	.23$\frac{60}{100}$
Cod	360,511	1,241,525	.02$\frac{88}{100}$	501,392	940,050	.01$\frac{8}{10}$
Ling	93,551	320,160	.02$\frac{84}{100}$	176,345	280,120	.01$\frac{58}{100}$
Haddock	1,740,548	4,420,675	.02$\frac{18}{100}$	725,792	1,877,692	.02$\frac{33}{100}$
Herrings	1,206,457	2,517,405	.01$\frac{8}{10}$	3,421,818	4,594,360	.01$\frac{18}{100}$
Mackerel	368,487	1,808,420	.04$\frac{9}{10}$	1,743	7,295	.03$\frac{18}{100}$
Sprats	215,702	64,270	.00$\frac{68}{100}$	3,615	1,540	.00$\frac{38}{100}$
All other	1,885,932	7,724,880	.03$\frac{8}{10}$	430,067	825,515	.01$\frac{84}{100}$
Total	5,966,076	22,455,090	.03$\frac{33}{100}$	5,283,764	8,769,935	.01$\frac{48}{100}$
Shellfish:	*Number.*		*Per dozen.*	*Number.*		*Per dozen.*
Crabs	4,621,570	261,555	.66$\frac{4}{100}$	2,805,250	76,920	.31$\frac{34}{100}$
Lobsters	730,298	172,220	2.75$\frac{37}{100}$	677,244	156,830	2.70$\frac{7}{10}$
Oysters	44,085,000	710,205	.18$\frac{14}{10}$	353,200	7,840	.25$\frac{88}{100}$
	Cwts.		*Per pound.*	*Cwts.*		*Per pound.*
All other	533,492	753,790	.01$\frac{8}{10}$	309,405	137,405	.00$\frac{88}{100}$
Total	.....	1,897,770	.....	.....	378,995	.....
Grand total	.....	24,352,860	.....	.....	9,248,930	.....

Table showing the quantity, value, and average price of fish landed, etc.—Continued.

Description.	Ireland.			Total.		
	Quantity.	Value.	Average price.	Quantity.	Value.	Average price.
	Cwts.		*Per pound.*	*Cwts.*		*Per pound.*
Soles	3,814	$77,800	$0.17 $\frac{48}{100}$	104,241	$2,814,600	$0.23 $\frac{14}{100}$
Turbot	1,242	19,865	.13 $\frac{7}{10}$	63,241	1,150,950	.15 $\frac{88}{100}$
Other prime fish	.....	.....	.....	55,554	733,335	.11 $\frac{88}{100}$
Cod	44,072	96,220	.01 $\frac{88}{100}$	905,975	2,277,795	.02 $\frac{14}{100}$
Ling	15,909	30,115	.01 $\frac{88}{100}$	285,805	630,395	.01 $\frac{88}{100}$
Haddock	20,899	65,405	.02 $\frac{88}{100}$	2,487,239	6,363,770	.02 $\frac{8}{10}$
Herrings	101,774	196,630	.01 $\frac{88}{100}$	4,730,049	7,308,395	.01 $\frac{88}{100}$
Mackerel	299,934	720,205	.02 $\frac{8}{100}$	670,164	2,535,920	.03 $\frac{88}{100}$
Sprats	5,799	2,510	.00 $\frac{88}{100}$	125,116	68,220	.00 $\frac{88}{100}$
All other	117,635	269,465	.01 $\frac{88}{100}$	2,433,634	8,819,860	.03 $\frac{1}{10}$
Total	611,078	1,478,215	.02 $\frac{8}{100}$	11,860,918	32,703,240	.02 $\frac{88}{100}$
Shellfish:	*Number.*		*Per dozen.*	*Number.*		*Per dozen.*
Crabs	275,896	13,795	.58 $\frac{7}{10}$	7,692,726	352,270	.53 $\frac{88}{100}$
Lobsters	211,668	35,140	1.96 $\frac{88}{100}$	1,619,210	364,690	2.63 $\frac{1}{10}$
Oysters	902,680	6,255	.08	45,339,880	724,300	.28 $\frac{78}{100}$
	Cwts.		*Per pound.*	*Cwts.*		*Per pound.*
All other	11,378	9,230	.00 $\frac{7}{10}$	854,275	900,423	.00 $\frac{8}{10}$
Total	.....	64,920	.....	.....	2,341,685	.....
Grand total	.....	1,543,135	.....	.....	35,044,925	.....

MINES.

The total number of persons employed in the mines in the United Kingdom in 1891 was 707,411, of whom 6,112 were females above ground; this is an increase of 33,000 persons employed. The total number of fatal accidents was 961, and the number of deaths caused thereby 1,030, as compared with 899 accidents and 1,206 deaths in 1890. There was 1 death for every 668 persons employed, against 1 in 543 in the preceding year.

The quantity of coal produced in 1891 was about 185,500,000 tons, valued at $370,500,000, against 181,500,000 tons, valued at $375,000,000—an increase of 4,000,000 tons, but a decrease in value of about $4,500,000. The quantity of iron ore wrought was about the same as in 1890, viz, 2,600,000 tons; but the value of pig iron produced fell from $120,500,000 in 1890 to $97,000,000 in 1891. The value of tin ore produced was $4,500,000, about the same as in the previous year.

Table showing the number of persons employed in and about all mines in the United Kingdom.

Year.	Underground (males).	Above ground, including sidings at pit.		Above ground on branch railways, etc.		Total.
		Males.	Females.	Males.	Females.	
1888	465,006	108,054	5,357	13,916	323	592,656
1889	489,179	112,513	5,463	17,760	314	625,229
1890	531,670	118,018	5,599	18,856	291	674,434
1891	559,189	122,870	5,819	19,240	293	707,411

Table showing the number of accidents in mines in the United Kingdom.

Year.	Coal mines.				Metalliferous mines.			
	Persons employed.	Fatal accidents.	Lives lost.		Persons employed.	Fatal accidents.	Lives lost.	
			Number.	Per 1,000 employed.			Number.	Per 1,000 employed.
1889	563,735	848	1,064	1.887	43,420	64	64	1.47
1890	623,233	861	1,160	1.891	42,054	38	46	1.09
1891	648,450	921	979	1.51	39,428	50	51	1.29

Table showing the quantity of minerals wrought in the mines of the United Kingdom.

Description.	1890.	1891.
	Tons.	*Tons.*
Coal	181,614,288	185,479,126
Fire clay	2,405,727	2,394,065
Ironstone	8,127,476	7,229,150
Oil shale	2,212,250	2,352,471
Alum clay	11,527	*10,763
Arsenic	4,154	6,016
Arsenical pyrites	5,114	5,095
Barites	24,761	26,877
Clays	90,796	72,896
Copper ore	11,859	8,794
Gold ore	575	14,167
Gypsum	115,055	114,870
Iron ore	2,648,267	*2,576,203
Iron pyrites	11,350	8,979
Lead ore	45,627	43,832
Manganese ore	12,444	9,426
Ocher, umber, etc.	4,049	4,432
Salt	188,730	221,593
Slates and slabs	166,537	153,374
Stone, etc.	774,617	684,174
Tin ore	12,969	17,387
Zinc ore	21,853	22,000
Other	257,172	239,397
Total	198,757,197	201,704,087

* Part returns.

Table showing the value of coal and metals produced in the United Kingdom.

Description.	1890.	1891.
Coal	$374,769,985	$370,499,080
Metals produced from British ores:		
Pig iron	120,703,930	97,204,590
Fine copper	288,250	203,540
Metallic lead	2,249,130	2,003,435
White tin	4,688,800	4,405,695
Zinc	1,016,790	1,062,475
Silver from lead	290,200	262,670
Gold	3,375	68,500
Other metals	2,825	1,855
Total	504,013,285	475,711,860

POST-OFFICE.

The total estimated number of letters, post cards, etc., delivered in the United Kingdom during 1891 was 2,716,578,365, an increase of 3.5 per cent, equal to 71.4 to each person in the United Kingdom.

The first dispatch of mails from London to China and Japan by the Canadian Pacific Railway took place on April 22, 1892. This service was established to bring about communication with the far East without the necessity of passing through the territory of any foreign power, and results in a saving of fifteen days; the old route via Suez used to take forty-three days. The service is monthly. The subsidy paid the Canadian Pacific Railway is $300,000, of which the United Kingdom contributes $225,000 and Canada $75,000.

The number of inland money orders issued was 8,906,576, of the value of upwards of $119,500,000, an increase, respectively, of 42,093 and $2,425,000. The value of orders issued in the United Kingdom for payment abroad was $3,730,695, of which $982,150 was payable in the United States. The value of money orders issued abroad and payable in the United Kingdom was $8,219,225, of which $5,536,410 was from the United States. The number of postal orders issued was 52,659,545, of the value of $102,818,750, an increase of 3,817,780 and $6,926,910, respectively.

The total amount to the credit of depositors in the Post-Office Savings Bank on the 31st of December, 1891, was $358,040,010, being nearly $20,000,000 more than at the corresponding period of the previous year. The amount credited to the depositors for interest was about $8,250,000, an increase of $500,000. The total number of depositors was 5,118,395, distributed as follows:

Division.	Number.	Proportion to population.	Average balance to each depositor.
England and Wales	4,723,929	1 to 6	$69.60
Scotland	182,390	1 to 22	43.09
Ireland	212,076	1 to 22	91.20
Total	5,118,395	1 to 7	68.08

When the free education act came into force on the 1st of September, 1891, it was thought to be a good opportunity of inducing parents to train up their children in the principles of thrift at the earliest age. Accordingly, arrangements were made with the education department by which school managers were authorized to collect the pence of the children who wished to open accounts with the post-office savings bank on the same day on which the school pence were formerly collected. The pence were received by the manager, who acknowledged the same by affixing ordinary postage stamps to a specially prepared slip, which was called for by a clerk from the nearest post-office at stated intervals. About fourteen hundred schools adopted the scheme, and others are added daily. It is estimated that in the first three months the school children had deposited about $70,000.

RAILWAYS.

The total length of line open in the United Kingdom in 1891 was 20,191 miles, the authorized capital of which was $5,182,557,700. The total paid-up capital was $4,597,125,605, equal to $227,680 per mile of line open.

The number of passengers conveyed, exclusive of season-ticket holders, was 845,463,668, an increase of about 30,000,000. The tonnage of goods and minerals conveyed was 310,324,607 tons, an increase of about 7,000,000 tons.

The gross receipts amounted to $409,303,035, an increase of $10,000,000; but the working expenditure amounted to $225,723,980, an increase of about $10,000,000, chiefly caused by the rise in wages of the working staffs of the various railways, thus leaving the net receipts at about the same figure ($183,500,000) as in the previous year. The proportion of the net receipts to total paid-up capital was 4 per cent, against 4.1 per cent in 1890.

Table showing the length of lines, capital, and passengers and merchandise conveyed on railways in the United Kingdom in 1891.

Division.	Length of lines.	Capital paid up.	Number of passengers conveyed.	Goods and minerals conveyed.
	Miles.			*Tons.*
England and Wales	14,156	$3,795,592,530	746,555,822	263,826,597
Scotland	3,172	612,650,055	76,705,588	42,087,279
Ireland	2,863	188,883,020	22,202,258	4,410,731
Total	20,191	4,597,125,605	845,463,668	310,324,607
Previous year	20,073	4,487,360,130	817,744,046	303,119,427

Table showing the gross receipts and working expenditures of the railways of the United Kingdom in 1891.

Division.	Gross receipts.			
	Passenger traffic.	Goods traffic.	Miscellaneous.	Total.
England and Wales	$149,532,540	$183,824,975	$15,824,395	$349,181,920
Scotland	17,641,630	25,012,985	1,418,500	44,073,115
Ireland	8,480,410	7,315,625	251,975	16,048,010
Total	175,654,580	216,153,585	17,494,870	409,303,035
Previous year	171,639,825	211,101,910	17,001,775	399,743,510

Division.	Working expenditures.	Net receipts.	Proportion of working expenditure to gross receipts.	Average receipts from goods and passenger traffic per mile.
			Per cent.	
England and Wales	$193,820,615	$155,440,270	55	$23,550
Scotland	23,170,085	20,903,030	53	13,455
Ireland	8,733,190	7,314,820	54	5,515
Total	225,723,890	183,658,120	55	19,405
Previous year	215,942,780	183,800,730	54	19,065

TRAMWAYS.

The total length of tramway open in the United Kingdom in 1891 was 963 miles, the paid-up capital of which was $67,981,485. The total receipts were $17,148,430, an increase of about $1,100,000; but the working expenditure increased more than that amount, so that the net receipts were under those of the previous year, being nearly 6 per cent of the capital invested. The increased working expenditure was caused by the number of men employed being greater, consequent upon the shorter hours worked by the men.

Table showing the total length, paid-up capital, traffic, receipts, and working expenses of tramways in the United Kingdom in 1891.

Division.	Length of lines open.	Paid-up capital.	Number of passengers conveyed.	Gross receipts.	Working expenses.	Net receipts.
	Miles.					
England and Wales	768	$55,470,590	448,251,111	$13,708,615	$10,583,765	$3,124,850
Scotland	84	6,380,955	82,426,901	2,260,755	1,676,295	584,460
Ireland	111	6,129,940	34,943,466	1,179,060	894,585	284,475
Total	963	67,981,485	565,621,478	17,148,430	13,154,645	3,993,785
Total in 1890	948	67,510,130	526,369,328	16,073,765	12,014,000	4,059,715

POPULATION.

The population of the United Kingdom, as estimated to the middle of 1892, was 38,109,329, exclusive of the army, navy, and merchant seamen abroad. In fifteen years the population of the United Kingdom has increased by about 4,500,000. To this increase England and Wales have contributed about 4,700,000 and Scotland 450,000, while the population of Ireland has decreased in the same period by about 650,000.

The births increased by 47,000 in England and Wales, 4,400 in Scotland, and, for the first time for very many years, by 2,600 in Ireland. Previous to 1891 there had been a continuous decline in the number of births in Ireland from 139,000 in 1877 to 105,000 in 1890.

Table showing the population of the United Kingdom.

Division.	1892.	1891.
England and Wales	29,403,346	29,081,047
Scotland	4,063,451	4,033,180
Ireland	4,642,532	4,681,173
Total	38,109,329	37,795,400

Table showing the births, deaths, and marriages in the United Kingdom in 1891.

Division.	Births.	Deaths.	Marriages.
England and Wales	913,836	587,666	226,025
Scotland	125,965	83,548	27,949
Ireland	107,883	86,053	21,421
Total	1,147,684	757,267	275,395
Total in 1890	1,096,721	727,076	271,459

EMIGRATION AND IMMIGRATION.

The total emigration in 1891 from the United Kingdom to countries out of Europe was 334,543 and the total immigration 151,369, thus leaving a net emigration of 183,174—an increase, when compared with 1890, of upwards of 23,000 emigrants. Of the net emigration, 115,470 were persons of British and Irish origin, of whom 87,587 went to the United States, 12,578 to British North America, 9,835 to Australasia, 3,337 to the Cape and Natal, and the remainder to other places.

With regard to the total emigration of British and Irish, only a small increase is shown when compared with 1890, the increase being almost entirely composed of foreigners. The proportion of the native emigration from each division of the Kingdom was 63 per cent English, 10 per cent Scotch, and 27 per cent Irish. Of the total English emigration 63 per cent went to the United States, of the Scotch 69 per cent, and of the Irish 91.5 per cent.

The occupations of emigrants to the United States show little change when compared with former years. The occupations were as follows:

Description.	British and Irish.	Foreigners.
Agricultural laborers	13,271	358
General laborers	26,061	35,870
Mechanics	3,999	5,422
Domestic and farm servants	15,866	5,931

Of late years there has been a growing feeling among the industrial population of the United Kingdom—more especially in London, Hull, and Liverpool—that some repressive legislation, after the pattern of that introduced in the United States some years ago, and which has worked so advantageously for the workingmen of our country, must be introduced into this country.

In order to ascertain the net immigration into this country from Europe, tables have been prepared giving the passengers from and to countries in Europe, and it was found that in 1891 there was a net immigration of about 28,000 persons. Of this total 12,607 were Russians and Poles, the remainder being composed of various nationalities. Of this total of 12,607 Russians, about 2,000 were returned to their homes by the London Jewish Board of Guardians; but it is assumed that the remainder, nearly all of whom were admittedly totally destitute, remained in this country. In this regard

it may not be uninteresting to notice the following table, prepared at the Poor Jews' Temporary Shelter, London:

Table showing the number of inmates of the Poor Jews' Temporary Shelter and the place from which they arrived and to which they departed in 1889, 1890, and 1891.

Year ended October 31—	Number of inmates.	Arrived from—			Went to—			
		Hamburg.	United States.	Other places.	United States.	Native place.	Various countries.	Not specified.
1889	783	509	181	93	90	258	23	412
1890	1,399	1,065	213	121	94	269	17	1,019
1891	2,021	1,861	119	41	504	311	286	920

Table showing the emigration in 1891.

Nationality.	To—					Total.	Total in 1890.
	United States.	British North America.	Australasia.	Cape and Natal.	All other places.		
English	87,581	17,881	14,549	8,545	9,325	137,881	139,979
Scotch	15,376	2,370	2,459	448	1,537	22,190	20,653
Irish	53,438	1,327	2,539	97	1,035	58,436	57,484
Total British and Irish	156,395	21,578	19,547	9,090	11,897	218,507	218,116
Foreigners	95,621	12,174	410	1,596	2,474	112,275	94,515
Not distinguished	.....	.....	.....	.....	3,761	3,761	3,349
Grand total	252,016	33,752	19,957	10,686	18,132	334,543	315,980

Table showing the immigration in 1891.

Nationality.	Whence arrived.					Total.	Total in 1890.
	United States.	British North America.	Australasia.	Cape and Natal.	All other places.		
British and Irish	68,808	9,000	9,712	5,753	9,764	103,037	109,470
Foreigners	43,539	598	141	1,160	1,759	47,197	44,663
Not distinguished	.....	.....	.....	.....	1,135	1,135	1,777
Total	112,347	9,598	9,853	6,913	12,658	151,369	155,910

Table showing comparison of emigration and immigration in 1891.

Countries.	Total.			British and Irish.		
	Emigrants.	Immigrants.	Excess of emigrants.	Emigrants.	Immigrants.	Excess of emigrants.
United States	252,016	112,347	139,669	156,395	68,808	87,587
British North America	33,752	9,598	24,154	21,578	9,000	12,578
Australasia	19,957	9,853	10,104	19,547	9,712	9,835
Cape and Natal	10,686	6,913	3,773	9,090	5,753	3,337
All other places	18,132	12,658	5,474	11,897	9,764	2,133
Total	334,543	151,369	183,174	218,507	103,037	115,470

REVENUE.

The total revenue of the United Kingdom for the year ended March 31, 1892, amounted to $454,973,930 and the expenditure to $449,638,865, thus leaving an excess of revenue of $5,335,065. The revenue from customs amounted to $98,000,000, an increase of $2,000,000, arising entirely from the increased consumption of tobacco. Excise gives $128,500,000, an increase of $5,000,000, made up by an increase in the revenue from spirits of $4,500,000 and from beer of $500,000. The revenue from stamp duties, probate duty, and legacies amounted to $68,500,000, an increase of $1,500,000.

The national debt services account for 28 per cent of the total expenditure, amounting to $126,000,000; the civil list absorbs $95,000,000; army, $88,500,000; navy, $78,000,000; and expenses of collection, $60,000,000.

Table showing the receipts from customs, stamps, and excise during the year ended March 31, 1892.

Description.	Amount.	Description.	Amount.
Customs:		Stamps—Continued.	
Tea	$17,090,810	Marine insurances	$762,710
Coffee	886,030	Bills of exchange, etc	4,188,045
Spirits, foreign and colonial	22,139,520	Receipts and drafts	5,681,515
Wine	6,455,260	Other receipts	2,311,775
Tobacco and snuff	49,744,050	Total	68,650,920
Currants, raisins, and dried fruits	1,734,705	Total in 1891	69,069,155
Other imported articles	940,740	Excise:	
Miscellaneous	150,430	Spirits	78,468,155
Total	99,141,545	Beer	47,288,745
Total in 1891	97,397,355	Licenses	1,163,345
Stamps:		Railways	1,624,920
Deeds	14,238,320	Coffee-mixture labels and chicory	20,580
Probate duty	14,055,935	Other receipts	21,380
Estate duty	7,013,605	Total	128,587,125
Legacies and successions	20,142,545	Total in 1891	123,629,585
Life insurances	256,470		

Table showing the revenue and expenditure of the United Kingdom in 1891.

Revenue.	Amount.	Expenditure.	Amount.
Customs	$98,680,000	National debt services	$126,000,000
Excise	128,050,000	Civil list	95,033,185
Stamps	68,500,000	Army	86,295,000
Land tax	5,250,000	Navy	70,750,000
House duty	7,170,000	Annuity under Indian army pension deficiency act	750,000
Property and income tax	69,050,000	Naval defense fund	7,142,855
Post-office	50,750,000	Barrack construction	1,625,000
Telegraph service	12,400,000	Expenses under coinage act	8,000,000
Crown lands	2,150,000	Charges for collection of revenue	60,042,825
Interest on advances	1,110,555	Total	449,638,865
Fee and patent stamps	4,144,150	Revenue	454,973,930
Receipts by civil departments	7,179,225	Excess of revenue	5,335,065
Total	454,973,930		

NATIONAL DEBT.

The total net liabilities of the United Kingdom on the 31st of March, 1892, amounted to $3,402,708,835, a decrease of $27,000,000. The net expenditure in the service of the debt amounted to $124,125,000, including $83,000,000 for interest, $32,000,000 for terminable annuities, $930,000 for management of debt, and $7,700,000 applied to new sinking fund.

Table showing the national debt of the United Kingdom.

Description.	1892.	1891.
Funded debt	$2,889,723,325	$2,897,360,410
Estimated capital value of terminable annuities	322,109,560	342,293,990
Unfunded debt	176,564,970	180,700,395
Estimated amount of savings banks' and friendly societies' deficiencies	7,831,395	2,826,695
Estimated capital value of terminable annuities created under imperial defense act	3,822,790	3,988,900
Russian-Dutch loan	2,656,795	2,599,700
Aggregate gross liabilities	3,402,708,835	3,429,770,090
Sundry assets	26,047,140	26,362,185
Aggregate net liabilities	3,376,661,695	3,403,407,905

JNO. C. NEW,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, December 21, 1892.

STEAM AND ELECTRIC LAUNCHES IN CHINA.

REPORT BY CONSUL FOWLER, OF NINGPO.

In a recent interview with the Taotai of this Circuit I pointed out to him the great advantage in the saving of time and comfort that would accrue if he adopted the modern method of traveling by the use of a steam, oil, or electric launch in his journeys about this district. I explained, to the best of my ability, the workings of the various kinds of launches, and he seemed so pleased with the idea of being able to travel with greater comfort and more speed than is now the case that he requested me to write to the United States for particulars; therefore, I have the honor to request that the Department will kindly place this before the manufacturers of launches, in order that they may tender diagrams, cuts, etc., so that I can have the matter placed before his excellency, thus enabling him to select such launch or engine as seems most suitable for these waters. It must be remembered that this vast district is intersected by thousands of miles of canals and rivers; and, although it covers a territory of 39,500 square miles and has a population of from 25,000,000 to 35,000,000 people, there is not a single launch or boat of any kind propelled by steam, oil, or electricity, excepting a few launches that ply from Shanghai to Hangchow, the capital, 150 miles northeast of this port.

The Taotai has occasion to go to the capital frequently. He travels in a small covered boat propelled by "ya lows" (large oars), worked similarly as a whale boat is worked, *i. e.*, by sculling. The average distance traveled in a day is 100 lis, or 33⅓ miles.

A boat suitable for China would have to be built very strong, and the propeller be so arranged that it could be taken up or protected in some way from the ropes that are passed around the stern of the boat while it is being pulled over the "haul over" from a river to a canal or from a lower to a higher canal. A "haul over" (over part of the bank sloped for the purpose by masonry or earthwork and covered with wet and slippery clay) forms a sluiceway. A boat to pass from a river to a canal has a rope passed around the stern, the ends of the rope being wound around a windlass on each side of the sluice. Men work the windlass on both sides until the boat has been hauled to the ridge, when it is pushed into the water. There are no locks. Sometimes a boat is dragged across a "haul over" by water buffaloes or oxen, but the first method is the common one hereabouts.

Another consideration is, that in some places the canals are only wide enough for a boat of the regulation size. This is especially so between the supports or arches of bridges. Finally, the bridges are so low that it is of the greatest importance that the roof of the cabin or cover should not be so high as to prevent the boat from passing under them.

The boats for traveling are called house boats. Foreign boats use a hull built native fashion, and in or on this hull is erected a small house, fitted with windows, berths, closets, etc. They are quite comfortable, and one can travel for weeks; in fact, it is the only way one can travel in this part of China. The boats used by the natives are not so comfortable, yet are often more expensive.

If it is possible for manufacturers to build an engine that can be placed in the boats used here, I think that there would soon be a large demand for such engines. The canals are the only roads, and all travel is, of course, by boat. The traffic carried on by boats is very large. The introduction of quicker methods of travel would be highly appreciated, especially if the Taotai sets the example, and I deem this a most auspicious time to introduce our methods into this province.

Some years ago I saw in Washington a boat which I think would be especially well adapted for China. If I recollect aright, it was a petroleum launch made in Providence, R. I., by Brayton (?); but such rapid strides have been made since then that possibly there may be more suitable kinds on the market now.

For the guidance of interested parties the following description may be of some use; Length, 38 feet; breadth, 6 feet 10 inches; height from keel to rail, 3 feet; height from rail to top of house, 2 feet 9 inches.

A flat-bottom boat is, of course, preferable and one that follows the Chinese style. It has occurred to me that it may be possible that a boat could be built with a top or house, having the sides arranged in such a manner that it

could be telescoped or lowered; in that case the roof could be higher than in a stationary one. One without a smokestack or with a smokestack that is easily lowered would be popular; in any case the stack must be a very short or low one. It would be well for the manufacturers to include in their estimates the cost of delivering the same by steamer or sailing vessel at Shanghai or Hongkong.

I have been discussing the benefits of small launches with the Taotai for the past two years, and now he has requested me to find out all I can for him. If he should adopt a launch for his own use, I am quite confident that it will not be long before many orders will be placed with our manufacturers. There is a splendid opening here. An immense traffic is carried on in boats, which now depends on the tide and the endurance of the "yu loese" (scullers). A company has been organized at Swatow of Chinese, who run a steam ferry (launches) a short distance upriver, and I understand they are doing a very lucrative business.

JOHN FOWLER,
Consul.

UNITED STATES CONSULATE,
Ningpo, March 10, 1893.

BUCARAMANQUINA.

REPORT BY CONSUL-GENERAL COUGHLIN, OF BOGOTÁ.

In reply to Department instruction of October 4, 1892, inquiring about the discovery of a new mineral called "bucaramanquina," in Colombia, I have the honor to report as follows:

In the year 1824 a learned Colombian botanist, Dr. Juan Eloi Valenzuela, discovered some deposits of this substance in alluvial soil in Colombia. He was killed shortly afterwards, and the discovery of this material was almost forgotten until quite recently.

It is a resinous substance. I have been informed that thousands of quintals of it are known to exist in the locality where it was discovered. Two classes of it are found—one laminated and the other in large lumps. The color varies from the lightest and most transparent amber to the darkest brown. It will cost about 60 cents per pound delivered in New York.

I hope that a thorough chemical examination will be made of it, and I would be pleased to receive a copy of the analysis.*

JEREMIAH COUGHLIN,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Bogotá, December 1, 1892.

*Samples were forwarded to the Department of Agriculture for analysis.

GERMAN PIG IRON.

REPORT BY CONSUL LISTOE, OF DUSSELDORF.

Having lately received several inquiries from Americans interested in the iron industry, I have thought that a report on the output of pig iron from the German blast furnaces for the month of December, 1892, and also the total output for the year 1891 perhaps might be of interest to American manufacturers, and I herewith have the honor to submit such report. The figures given are supposed to be reliable, as they are taken from the published official statistics.

Table showing the output of German blast furnaces during the month of December, 1892.

Group.	Number of works.	Output.
Puddle pig.		*Tons.*
Northwestern (Westphalia and Rhineland, except the Saar district)	37	61,038
Eastern (Silesia)	13	28,847
Middle (Saxony and Thuringia)	1	345
Northern (Brandenburg and Hanover)	1	190
Southern (Bavaria, Würtemberg, Luxemburg, Hessen, Nassau, and Alsace)	8	28,419
Southwestern (Saar district and Lorraine)	8	29,904
Total	68	148,743
Total in December, 1891	68	163,491
Bessemer pig.		
Northwestern	6	21,790
Eastern	1	.....
Middle	1	.....
Southern	1	1,430
Total	9	23,220
Total in December, 1891	8	30,679
Thomas pig.		
Northwestern	12	69,381
Eastern	4	4,573
Northern	1	9,655
Southern	4	23,359
Southwestern	7	54,330
Total	28	161,298
Total in December, 1891	29	143,799
Foundry pig.		
Northwestern	9	19,368
Eastern	7	2,559
Middle	1	1,778
Northern	2	2,590
Southern	8	23,065
Southwestern	5	8,732
Total	32	58,092
Total in December, 1891	36	50,031

Table showing the total output of pig iron in 1892.

Month.	Puddle.	Bessemer.	Thomas.	Foundry.	Total.	Total in 1891.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
January	163,538	29,282	160,112	55,443	408,375	348,355
February	143,969	26,725	156,978	51,028	378,700	331,660
March	161,169	34,668	169,593	48,214	413,644	370,018
April	159,304	28,233	160,182	49,102	396,821	356,856
May	165,706	27,213	168,080	47,897	408,896	356,516
June	147,156	25,202	168,157	49,176	389,691	367,580
July	141,427	24,972	174,173	53,321	393,893	381,537
August	151,910	19,761	176,863	52,629	401,163	392,233
September	141,881	23,667	169,094	62,816	397,458	390,901
October	156,638	26,117	179,448	53,870	416,073	392,166
November	160,726	24,759	162,422	49,029	396,936	376,279
December	148,743	23,220	161,298	58,092	391,353	387,918
Total	1,842,167	313,819	2,006,400	630,617	4,793,003	4,452,018

SOREN LISTOE,
Consul.

UNITED STATES CONSULATE,
Dusseldorf, February 14, 1893.

THE VIENNA COMMERCIAL ACADEMY.

REPORT BY CONSUL-GENERAL GOLDSCHMIDT.

In giving a description of the Handels-Akademie of Vienna it is impossible to overrate the great influence it has had in establishing and maintaining a system of commercial training of the very highest character for the youth of Austria. In the thirty years of its existence the country has ventured into fields of commercial enterprise previously untried, and this academy—now the model of many kindred institutions in the Empire—is undoubtedly the first in Europe of its kind, and some particulars concerning it may be given with advantage.

Early in 1856 Herr Ohligs, a manufacturer, proposed to the Lower Austrian Chamber of Commerce and Industry "to erect in Vienna an institution of general commercial education," and he grounded his proposal upon the importance of commerce as a chief factor in political economy. "Special commercial training," he said, "had been generally neglected; such as did exist was almost wholly limited to home affairs. Few Austrian consuls possessed commercial education, and in foreign countries Austria was represented by foreign agents and not by her own subjects." In November of the same year the success of the movement was insured. In January, 1857, the Government consented to the formation of an "association for establishing a higher commercial institute in Vienna" by subscription.

At the first general meeting of the association on April 27, 1857, the sum of 352,780 florins was subscribed by 563 members, and the laws for the

government of the school were adopted. Baron Friederich von Schey was the first president, and he held the office until his death in 1881. The school was opened in 1858 in a house in the Renngasse with 59 pupils; by October these had increased to 170, in addition to those who attended the evening course for commercial men already engaged in commercial pursuits. The principles contained in the statutes passed in 1857 remain unchanged.

The Vienna Handels-Akademie is the institute of a special association, and is not simply that of a mere mercantile body or of a municipality, as some others since founded in Austria. It is composed of (1) honorary members; (2) governors who contribute 315 florins annually for life, or 3,150 florins in one sum, or, at the most, in six yearly installments; (3) of founders who pay less than 3,150 florins, but not less than 525 florins; and (4) of members who subscribe less than 525 florins. Only governors possess special rights; they and their legal heirs have the right for twenty years to nominate for free education in the academy. At the annual meeting the executive council of twelve members is elected, six of whom must belong to the trading and commercial classes. The council choose annually the president and vice-president and appoint the director, professors, and officials; but such appointments are not valid until confirmed by the education minister. Herr Franz Hauke was the first director; he had previously distinguished himself by the part he had taken in organizing the first higher *Realschulen* of Austria. The first curriculum for the academy was planned by Herr Ohligs, and for its comprehensiveness is a model for such institutions. Provision was first made for three classes, with a term of three years' instruction; this was subsequently increased to four classes, with a four years' term, the first and second being passed in the preparatory classes, the third and fourth in the academy proper. This division enabled scholars whose previous education was imperfect to be fully prepared for the actual and more-important work of the academy. The alteration was fully approved by the minister for education and continued in force till 1872, when the first period in the history of the school was completed.

As a "special" school the pupils are actively brought into contact with practical life; they regularly visit the public collections of commercial and industrial art, industrial establishments, and make "instruction journeys" to the great centers of commerce under the direct guidance of the professors. Despite the high school fee of 150 florins annually, with an extra fee of 5 florins for special purposes, the number of pupils steadily increased. They came from all parts of the Empire, and it was quickly found that those who had passed through the academy could command their price in the market and rapidly find employment.

The State, by order from the ministry of war, on the 22d of December, 1868, granted the privilege to the successful pupils to fulfill their period of military service in one year, instead of in three years.

The handsome building in which the academy is now conducted was opened in 1862. A second special subscription, together with the surplus of

receipts over expenditure, completely covered its cost by 1872. Director Franz Hauke died in 1871, and Section Chief D. Alois von Czedik, of Brundelsberg, was appointed to succeed him.

The second period of the academy's history is limited to the years 1872–'77. The former organization embraced education in banking, natural science, and general commercial transactions; but all matters connected with the various branches of insurance and "systems of communication" were still left to be dealt with in other schools belonging to the State or to various associations. On the proposal of the executive of the academy, the various railway companies closed their schools for railway service and the ministry for commerce its course of instruction in telegraphy. In 1872 these bodies, with the insurance companies, considerably increased their grants to the academy for a period of six years, on the condition that special courses of instruction should be given on railway, State postal, and State telegraph services and on the various systems of insurance. The plans of instruction for these were agreed upon by the parties interested, the State and the railway companies declaring that those who successfully passed the academy were eligible for employment in their respective services.

By this time, with its preparatory classes, it had become a "two-classed middle school," and very soon found itself unable to compete with the "three-classed upper *Realschule*" and the "four-classed upper gymnasium," nor was it properly answering the real object of its existence. Reform of its organization and objects was necessary, and in May, 1872, it was decided to reconstitute it in two divisions, each with its own director and distinct professorial staff. The preparatory classes with the first class of the academy proper were formed into a three-classed commercial school, while the second academy class and the special courses formed the commercial high school. This constitution of higher mercantile instruction received the sanction of the Lower Austrian legislature on February 27, 1873.

In the school curriculum now adopted it became obligatory to learn two foreign languages—French by every pupil, but for the second language the pupil was free to choose between English and Italian. The former director, Herr Alois von Czedik, was appointed curator of the high school, and it was reconstructed in three divisions, as follows: (1) Banking, mortgage, and insurance business; (2) general mercantile affairs, including agency, ship brokerage, and manufacturing; (3) systems of communication—railways, State postal arrangements, and telegraphs.

The high-school term was two years. Pupils were of two classes—ordinary and extraordinary. The first either presented the certificate of maturity from a middle-class school or had passed successfully the admission examination and were 18 years of age. Those unable to fulfill these requirements could become "extraordinary" pupils. Most of the students in the railway, post, and telegraph courses were of this class. They received "attestations of attendance" only, and not "certificates of progress." Individual examination of pupils was half-yearly, and those who were successful in the first class received their certificates.

The academy thus divided had a brief career—the middle school five years, the high school only four. The financial crisis of 1873 had a serious effect upon its operations. The State and the private companies suspended payment of their annual subventions, and the council was compelled to reconsider its position, with a view to reorganization. The public were opposed to a five years' course of instruction, which had been mooted. Students who passed through the middle school failed to proceed to the high school in sufficient numbers to keep it actively alive. It was then determined to abandon the existing arrangement, and to establish a "special school" divided into lower and higher forms for young men 17 years old and upwards whose examination proved their fitness for admission. The school was once more placed under one director, so as to secure unity of guidance. The office of curator was abolished, and the professors were reformed into one body under the control of the director. These arrangements were fully approved by the minister for education in 1877.

The third and present period dates from 1877, and was commenced under the directorate of Dr. Rudolf Sonndorfer. He was a professor in the high school in 1876–'77 and was previously in the middle school. He prepared and carried out the reorganization scheme on the following lines:

(1) By creating a three-classed academy for giving higher and special commercial education such as should be possessed by all business men. It was no longer to be a mere middle school preparing for a higher, but a special school fitting young men to put directly into practice in business the instruction received in theory in the academy. Candidates unable to prove regular preparatory studies qualifying for admission, but who had complied with the requirements of the *Volksschule* and were 14 years old, were (and are) admitted if, on examination, they proved to have obtained adequate knowledge of the aims of the education already received. The number of pupils thus entered is now steadily diminishing. In 1877–'78 the number of scholars who entered the first course was 149, of whom only 47 per cent possessed the necessary preparatory knowledge. In the school year 1887–'88 232 scholars entered the first year's course, 209 (or 90 per cent) of whom were duly qualified. The school fee is 160 florins per year, with 3 florins entrance fee. Numerous scholarships enable many to enter who could not otherwise do so; in many cases the fee is partially, and in many others wholly, remitted. The system of final examinations on leaving is abolished. Examination is continued throughout the year. By continuous reports and half-yearly certificates parents are made aware of the progress of their sons. The school programme embraces two groups of subjects—"special" and "ordinary"—the acquisition of foreign languages acting as a bond of union between them, such acquisition being mainly used for mercantile correspondence, as the plan of instruction, to a far greater degree than before, is directed to mercantile pursuits. Chemistry, chemical and mechanical technology, knowledge of wares, etc., are taught with great care. The instruction given of national usances, values of articles of merchandise,

keeping of accounts as in a merchant's office, modes of transit and transit charges to and from various parts of the world, etc., is found of great value when the student puts this gained knowledge into practice in his life work. The constant aim of the director is to make every branch of the education given of the highest practical value to the pupils in their future career; hence in 1880–'81 "the knowledge of customs law" and the practical "manipulation of customs duties" he introduced as nonobligatory subjects, he himself discharging the professorial duties therein. The following is the curriculum: Obligatory subjects—German and French languages, with either English or Italian; commercial geography, history; in third year, commercial history, mathematics, mercantile and political arithmetic, science of usances and values of goods, science of commerce and countinghouse work, bookkeeping, correspondence, sample office, commercial and exchange law, commercial and industrial legislation, national economy, natural philosophy, natural history, chemistry and chemical technology, knowledge of wares, copy writing; first and second year hours of study, thirty weekly; third year, thirty-one. Nonobligatory subjects—Practical work in the chemical laboratory, practical work in the laboratory for knowledge of wares, knowledge of customs law and practical manipulation of customs dues, stenography. The pupils come from all parts of the Empire, with a yearly average of from twenty-five to forty from foreign states.

(2) One year's course for *Abiturienten*, or 17-year-old pupils, who have successfully passed the middle schools and who enter the Handels-Akademie for one year's commercial education. From small beginnings this course has grown so rapidly as to form, at the present time, a very important branch. To insure success attendance is strictly enforced. In this class the yearly examinations are made in addition to the continuous reports. In these examinations every student must take part, as only those who have participated in the prescribed "colloquies" throughout the year of study can obtain certificates.

The library, the laboratory, the cabinets containing large collections in natural history, in raw and manufactured articles of commerce, in aids to ethnographical and historical research, give great facilities for study to both professors and students.

The duty of the middle school finishes when the final certificate on departure is placed in the hands of the pupil, but the directorate of the Handels-Akademie realize the responsibility of acting as a bond of union between its students and employers who desire to have such educated instruments in their own business; hence from the first it has been able to place its pupils in highly advantageous positions at home and abroad, and this circumstance is of special interest to Austria as affecting her commercial relations with foreign countries. Since the days of Maria Theresa constant complaint has been made that the Empire, commercially, has scarcely had any Austrian representatives in foreign states. This conviction acted as an incentive to the public to determine that the field of enterprise for the commerce of the State should be extended. For this extension it was necessary for Austrian

subjects to enter the service of commercial houses in England, France, and elsewhere, so as to gain a knowledge of the customers of those states, the modes of business pursued by the merchant in his trading transactions, and the various classes of goods most suitable for competing manufactures. For thus perfecting their education many of the students have been and are now in England and elsewhere gaining this knowledge, in order that, as opportunity offers, they may return to their native state and put their newly acquired knowledge to use in the marts of the world, and thus, by this means, England is raising up for herself in the near future a new, most intelligent, capable, and determined competitor.

In 1885 the academy founded a "special traveling scholarship fund." It was commenced by the Emperor with a subscription of 5,000 florins; and Prince John II, of Liechtenstein, with the bankers, merchants, and commercial houses, in response to the request of the director, speedily raised the fund to 60,000 florins. In April, 1887, the council created two scholarships of the yearly value of 1,500 florins in gold ($600). One of the successful competitors was sent to Salonica and the other to Barcelona, in order that in these centers of trade they might act as the ever-present representatives of the trading interests in Austria, extending her commercial relations in those districts for any and all of the special and particular commercial productions of Austria-Hungary. As funds increase so the number of these agents will be increased for the benefit of the whole trading community of the Fatherland. There are forty scholarships of various values in the gift of the academy.

In the first period of the academy 1,714 students passed through it; in the second, 1,262; and in the third (to December, 1887), 2,168. Thus in the thirty years it has launched 5,144 fully educated students into the commercial life of the country, calculated vastly to improve its business capacity and to confer an immense business benefit upon the whole Empire.

In 1887 the subscriptions amounted to 530,642 florins. The State paid 40,950 florins and the city of Vienna 31,500 florins. The cost of the academy building was 452,110 florins. In September, 1877, when Dr. Sonndorfer entered upon his directorate, the building debt was 15,000 florins, with no cash in hand. Nine years afterwards, in 1886, every debt was paid, and there was a net cash balance in hand of 159,693 florins. The actual working expenses from 1858 to 1887, inclusive, amounted to 1,994,904 florins; and this sum of nearly 2,000,000 florins was covered by the school fees, and that notwithstanding, in its desire to confer the benefit of its education as widely as possible, full remittance of fees to a considerable number of pupils is made yearly, three-fourths to others, and half to as many more. The amount of school fees thus remitted to August, 1887, was 280,485 florins; of this sum, 90,396 florins have been remitted in the last nine years.

Among the "commercial special" schools of like character in Austria-Hungary, France, Germany, etc., the attendance at the Vienna Handels-Akademie is the highest of them all. For some years past the director has

been applied to by foreign governments to give complete practical explanations of its organization and system, while banking and commercial houses in London and elsewhere requiring specially trained and capable young men in their business have applied to, and been supplied by, Dr. Sonndorfer from the students under his charge.

JULIUS GOLDSCHMIDT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, January 5, 1893.

GUATEMALAN-AMERICAN TRADE.

REPORT BY CONSUL-GENERAL KIMBERLY.

INTRODUCTORY.

It can be safely said that there are no products of American enterprise or industry but would find ready and eager sale in these markets. Dependent, as they are, entirely upon other nations for every article of manufacture and use entering into the needs or necessities of ordinary life, they accept with avidity any conditions which supply their own deficiencies.

Yet the nations of Europe absorb a large share of this vast and growing trade. It may be in a measure due to the fact that our people have been so busy since the late civil war in building up our waste places and industries that they have had no time for reaching out this way; but this must necessarily change, and the increasing volume of products may force them to look for other points of outlet. It can scarcely be, as one of the causes, apprehension of the financial standing or credit of these merchants, for I have discovered that business failures are exceedingly rare, and fraudulent business failures are unknown here. In fact, the laws of this Republic are of such a stringent character that one having failed in business must show to the legal authority that he has fully paid off all previous liability before he can recommence. The merchants, and especially the larger houses, are, as a rule, thoroughly strict and reliable, and are composed of all nationalities, the Germans, however, predominating.

What may be another important factor in the matter is the class of commercial travelers visiting these countries. For example, the agents or travelers who come from Europe—and very many do come—are invariably intelligent, polished men, speaking Spanish in addition to their own language; and polite insidiousness accounts, to a great extent, for existing trade conditions. On the other hand, the very few who have come from the United States—and these mostly from California—are, for the most part, youngsters who speak English glibly enough, but there it ends. These drummers find themselves, for the first time, perhaps, encountering obstacles such as they never before encountered, get discouraged, and return home to find fault with a people they did not understand—with a people who did not understand them.

The foreign traveler in the meanwhile progresses steadily in his efforts, and when he returns to his employers in Europe takes orders in his possession frequently amounting to as high as $200,000 at a time.

AMERICAN PACKERS AT FAULT.

The average packing from the United States for these countries is decidedly bad. At different times merchants wrote to the houses from which good were ordered, "Please pack so and so," yet the majority of houses will not follow instructions; hence merchandise shipped from the United States is in general very badly packed, to say the least. The average house there packs merchandise for Central America as if the goods were going merely from New York to Chicago. It is positively amusing to see a box marked in English, "handle with care," as the general language down here is Spanish. The laborers on the railroads and wharfs in Central America are no better educated than they are anywhere else. They are not linguists who speak three or four languages. Half of them can not read even Spanish.

All goods which are shipped to these countries must be most carefully packed. I shall give a description of a case shipped from New York to Guatemala city; then the merchants in the United States will probably understand why goods must be packed differently and more carefully than merchandise shipped to any part of the United States.

The box leaves the Pacific Mail wharf in New York and is loaded from the Pacific Mail steamers at Colon on the Atlantic side on a lighter; from the lighter it goes to the wharf, to the Panama Railroad; on the Pacific Ocean side, from wharf to lighter again, and from lighter to the steamer of the Pacific Mail Company. These goods are transported to ports on the Pacific Ocean side. After about eight or ten days the box arrives at San José de Guatemala harbor, is once more put on a lighter to the wharf of the Sa Compañia de Agencias; from the wharf to the railroad, and from the railroad to the custom-house, which is rather small for the amount of business done there, and boxes are not handled with gloves. Taking now into consideration that the surf on the Pacific Ocean side is very strong, and that no steamer can land at the wharf of any harbor with the exception of one—Corinto, Nicaragua—it is easy to understand that when merchandise is handled so much cases loosely packed will arrive in a bad state. Often some of the contents are stolen or lost through bad packing, for which nobody seems to be responsible. Many merchants here will tell you, "We do not buy goods in the United States, because they do not know how to, or will not, pack the way they ought to be packed."

Futhermore, a great many goods in Guatemala and all over Central America are transported by mule or "mozo" (Indians) to the interior. While some merchants may order goods to be packed in a manner which may seem ridiculous to a merchant doing business in the United States, their instructions ought to be invariably followed to the letter.

FREIGHT DISADVANTAGES.

Freights from the United States are at a decided disadvantage. The freights from New York to San José de Guatemala are double what they are from Hamburg, Germany, for the reason that out of Hamburg two lines run to Panama, which are continually fighting each other, and from the United States we have but one line—the Pacific Mail Steamship Company. The charges of the Pacific Mail Steamship Company, considering mileage, etc., are not excessive; they are high, but the expense is in proportion. But charges for lighterage, wharfage, and railroads in Guatemala are out of proportion to the freight charges on the Pacific Mail.

It will pay to ship bulky goods from New York to Hamburg and have them transshipped at the latter place to Central America. The freight charges from New York to most of the ports on the Pacific side of Central America are 75 cents (gold) per square foot; from Hamburg for same measurement, 1 mark (24½ cents).

Merchants all over the world will buy wherever it is possible to buy to their advantage. These people are thus forced to go to Europe to buy goods, solely for the reasons which have already been enumerated.

These obstacles are not traceable to any individual or corporation. I can only say that our representatives here might have taken the subject in hand long ago, and that the United States Government should see that the CONSULAR REPORTS are distributed among the business men in the United States. The average business man in the United States, as I know from my own experience, will not take the trouble to look for the CONSULAR REPORTS, especially as business has been good enough at home in years past without going out of the United States; but I may truthfully assert that no country offers such inducements to our industries as Central America.

TRADE INDUCEMENTS.

Guatemala, with the exception of about 15 miles inland from the coast on either side, is from 3,500 to 7,500 feet above the level of the sea, and for scenery and richness of soil it surpasses any country in the world.

It is a matter of history that the countries of Central America are some of the oldest settled by Europeans, and it is only a natural consequence that the markets of these countries should have had a demand for European industrial products long before the American manufacturer thought of exporting, being kept exceedingly busy with the demands of his home market. Under such conditions it is not surprising that the European manufacturer has cultivated and fostered close and intimate commercial relations with these countries, and controlled a large portion of the trade. It is only at a comparatively recent date that the American industries have exceeded the home demands and their attention called to other markets besides their own.

THE SCIENCE OF EXPORTING.

Following this line of thought, the difficult task to dislodge the Europeans in their control of these markets becomes perfectly plain, more espe-

cially so when we take into consideration the superior experience, and therefore the greater acquired tact, of the European exporter in dealing with his customers across the water over his younger, pushing, but less-experienced, rival.

It is said "there is a knack in every trade." The trade of exporting has also its "knack," and to acquire this should not be so very difficult to the wide-awake American merchant. In the first place, it is necessary to study the ways and manners of our successful competitors or rivals thoroughly, and then go one better on them. As a general thing it may be taken for a fact that most of the existing larger foreign business houses here are the outgrowth of some agency or branch from a larger European house, started by a junior partner, a relative, or other trusted employé. Others have been started by young men who had been sent out by the mother house and served for some years faithfully as clerks, and, being of a deserving, energetic, pushing character, established themselves in business.

That under such conditions a long-credit system should spring into practice is perfectly natural, and that it is a safe one is proven by the general prosperity of the merchants here and the entire absence of business failures. During my two and a half years' observation I have failed to note one single commercial failure worthy of mention.

Another notable consequence of these conditions has fallen under my notice, namely, that a good many young and energetic men, having accumulated a modest fortune in the course of a few years, retire from business here, return to their native country, set themselves up as commission merchants at home, and, being possessed of a thorough knowledge of these markets, as well as the confidence of the merchants here and the manufacturers at home, become powerful factors in the futherance of still closer relations between the two.

But the European manufacturers and merchants, not content with this state of affairs, display a further activity and tact in sending out their army of solicitors, or traveling agents. These agents are, without exception, far superior to their American rivals.

The people of the Latin race are proverbially a very polite people, and, if approached after their own manner, are exceedingly easy of access; but, as a general rule, they are a very conservative people, with a love for slow and tedious bargaining.

To say that the European merchant is ever studying exactly to supply the special demands of these markets would be going too far. To a large extent the consumer of Central America has been educated by the Europeans, and it is not easy to alter any fixed and strong habit or custom of the people.

AMERICAN VS. EUROPEAN MARKETS.

The great masses of the consumers, the Indians, have become attached to the form and quality of European products, and, being conservative, they are loth to exchange them for other shapes and forms, no matter how superior

they may be in quality. That the majority of American products which could be introduced here with advantage to both buyer and seller are really superior in quality is admitted by all impartial (even European) merchants here. This is especially true of the article of largest consumption—cotton woven goods, unbleached cotton particularly. The European is usually of very inferior quality, heavily impregnated with some earthy matter to give it a strong, stiff appearance, but made up neatly in pieces of 9 or 10 yards each, tied with a red ribbon, the trade-mark upon it, and in most cases embellished with a gaudy picture. The average buyer—usually an Indian—never questions the measurement of the piece, has implicit faith in the red ribbon as evidence that the piece is entire and of customary length, and will look dubiously upon any fabric which is not made up in a similar manner. Such cases have frequently come under my observation, and I have tried to convince the same Indian that it would be to his advantage to take the same number of yards measured, cut, and packed up before his eyes from an American manufactured piece 60 yards long, of a far superior quality, without the foreign, earthy matter in its meshes, and costing only a trifle more, but with no avail. The Indian would shake his head, stick to his original package, load himself with the foreign, earthy, starch matter which, after the first washing, would leave the fabric like cheese cloth, and be content and happy in the belief of having had the best of a good bargain. There is no doubt that if the American cotton manufacturer will take this to heart and govern himself accordingly, he will soon have full control of these markets.

Another very interesting class of American exports is the different agricultural implements, such as axes, hoes, machetes (or brush swords), picks, etc. Every intelligent and impartial observer admits that the American make of any of the above-mentioned articles is infinitely superior in quality and form to the European article; and still the Indian, from long-acquired custom, sticks to the clumsy European sheet-iron hoe and the primitive European-shaped ax. If we examine the American ax carefully, we will find that its shape, the form of its handle, etc., are the result of a close study by an eminently practical class of people in the art of wood chopping; yet the conservative Indian, educated to the use of the European ax, will shake his head when shown the American article. Probably he will try a few strokes with it, but will lay it down and reach for the European ax without an adjusted handle, go to the woods, cut a rough stick from a tree, insert it as a handle, and go to work chopping, thinking that he can not be fooled with the outlandish-looking American ax.

Here it would not be amiss to hold up as an example worthy of imitation by others the American house of Collins, manufacturers of edge tools, whose wares, especially brush knives, are known and appreciated by every intelligent planter in Spanish America. In spite of the higher price of these goods, there are not a few—especially foreign—large planters who will buy them in preference to all others. Their laborers are more contented and accomplish more work with them than with the European article. The Collins

goods are making a good inroad upon these markets by the house pursuing the simple principle of furnishing only a superior article in every respect and adopting such shapes and forms as the people of each section are accustomed to, but always improving them somewhat—never enough to arouse the suspicion of the consumer that it is an entirely new departure. Among other things, I have seen Collins axes made in shape to suit the Indian prejudices, which are highly appreciated by the Indian who has once used them. Still, a large portion of all such agricultural implements sold come from Europe, for the reason that they are offered cheaper. The Indian selects them from force of habit and the small native planter from motives of economy.

CUSTOMS TARIFF AND PACKING.

It is not sufficient to make the packing so strong that the goods will stand the extremely rough usage to which all are exposed and secure them against petty pilfering on the way, but there is another far more important matter to be observed in the packing of American goods. The tariff on imports in these countries is, as a general rule, made up in an exceedingly primitive way as yet. The duty on a majority of goods is levied on the gross weight of the package, and it is clear that by close attention to the peculiar provisions of such a tariff many favorable results to the importing merchant may be brought about. Instructions of these merchants should be followed strictly; for example, furniture is placed on the scales at the custom-houses and duties (which are very high) levied on the gross weight.

CENTRAL AMERICA.

For further reference upon this useful and interesting subject I take the liberty of inserting letters from Señor Don Francisco Sainfiesta, the minister of Guatemala at Washington in 1889, one of the leading men of his country and thoroughly posted upon all such affairs. These letters were published in the American newspapers at the time. They indicate very clearly the shortcomings and exigencies standing in our way toward getting full control of the trade of this Republic, as well as the other Republics of Central America.

WASHINGTON, D. C., *December 27, 1888.*

My social intercourse in the United States has satisfied me that there is here a general lack of correct information concerning the geographical situation, the political condition, the commerce, and the development of Central America, my native country.

The forthcoming congress of the three Americas has awakened a natural interest, and this circumstance gives opportunity for the presentation of some data relating to Central America.

Nature has clearly defined the region of Central America. It embraces the territory comprehended between the two isthmuses of this continent, to wit: The isthmus of Tehuantepec, which separates it from North America at the extremity occupied by Mexico, and that of Panama, which forms its boundary on that part or extremity occupied by Colombia.

To-day the territory of Central America appears curtailed. It lacks to the northwest a good area held by Mexico and to the northeast the territory known as the colony of Belize, retained by England. But the Central Americans feel confident that out of the irrepressible evolution in the destinies of peoples that region will regain its scope, to become the link of union between North and South America, contributing with its incomparable location and its

varied products to enlarge the commerce of this continent while becoming its storehouse or emporium.

Central America is divided into five autonomous States—Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica—with a population of 3,500,000. Of these Guatemala holds 1,300,000.

Strong efforts are being made at the present time to reunite those five States into one and to reëstablish the old republic of Central America. This transformation will secure for it greater consideration and respect from foreign nations and greatly facilitate the unfolding of its destiny, which to-day is hampered and embarrassed by petty and local interests.

The staples of that favored region are those of every clime. Those more generally exported are: Coffee, sugar, indigo, cacao, vanilla, a variety of fruits, many sorts of peltry, India rubber, balsam, tortoise shell, precious stones, dyewood, mineral quartz, sisal hemp, ramie, etc.

The importations to Central America amount to $20,000,000 or $25,000,000 in value. Of this sum, five-sixths go to Europe, while the United States, notwithstanding their most advantageous position, only reap a small fraction instead of the larger share.

Almost all the importations are made via Aspinwall across the Isthmus of Panama and then transferred to the steamers on the Pacific. Some are also made, with great delay, around Cape Horn and the Straits of Magellan.

The importations are made through the southern coast of Central America, because on the northern coast there are but mule tracks, long and difficult, which make their carriage slow and costly. The State of Costa Rica has the only railroad on the northern side; its terminus is Port Limon. Nicaragua centers her hopes upon the interoceanic canal. Honduras and Guatamala are projecting interoceanic railroads from the north side. Salvador has no coast to the north.

The chief articles of importation are: Woolen, silks, cotton goods, hardware, machinery, manufactured iron of all kinds, wines and liquors, cutlery, furniture, musical instruments, stationery and office articles, books, fancy articles, kerosene, wheat, flour, preserves, drugs and medicines, china and glassware, cars and carriages, bags for coffee and sugar, etc.

As a general thing the climate of Central America is healthy and delightful. The country is rugged, and has the appearance of perennial spring. It is only upon the coast that those who lead irregular lives are subject to fevers.

There are extensive mines of gold and silver in the territory of Honduras, which are now being worked by large American companies.

The trip by steamer from New Orleans to Livingston, a port of Guatemala on the Atlantic, or to Port Limon, in Costa Rica, is made in from four to six days.

The above cursory information may prove of some interest to the public, in view of the fact that we are about to discuss the best methods for the establishment of the commerce of America with America.

A statement of the causes which have heretofore prevented the development of the commerce of Central and South America with the United States claims a separate article.

FRANCISCO SAINFIESTA.

WASHINGTON, D. C., *January 2, 1889.*

There are three cardinal impediments to the development of the commerce of the great Republic with Central and South America.

First. The terms and conditions upon which merchandise is obtained, which are less favorable to the buyer in the United States than they are in Europe.

Second. The freights by sea, which here are higher than in Europe [owing to greater competition in freight lines].

Third. The careless packing of merchandise in the United States, which must of necessity be well conditioned, since it has to undergo transfers, reshipments, and carriage over heavy roads.

As the United States produce most of the articles purchased in Europe for consumption or use in Central and South America, and as the price thereof at both sources of supply is the same, it is but natural to infer that the preference given to Europe, though more distant, arises from the causes above enumerated.

Why do buyers from Central and South America obtain longer credits in England, Germany, France, and Spain than are held out to them in the United States? Why should sea freights from Europe be lower than from the United States?

The difficulty involved in the first query can be removed by American merchants and manufacturers themselves. The second is of more difficult solution. The traffic monopoly held by the Panama Railroad renders impossible for the present all healthy competition with the only line of steamers plying between New York and Aspinwall. This most serious evil can only be triumphantly overcome when the commerce of the United States shall have sure and free access to the west coast of America by means of an interoceanic water way. Then, as a matter of course, American shipping and American trade with Central and South America will attain that preëminence which by nature and by right belongs to them.

The remissness in the packing and conditioning of American merchandise might at first sight be thought of little consequence. It compels, nevertheless, the Central and South American purchaser to decline to buy here a certain line of goods which he is certain will never reach him in good condition. Merchandise, for instance, bound to Central America via Aspinwall and Panama, after two transshipments at those ports, is discharged at the principal ports on the Pacific in an open sea, without the convenience of wharfs. The packages are thrown from the vessel into lighters; and, as these are rudely shaken by a rough sea, it is difficult to avoid damage. Moreover, merchandise is carried from many of these ports into the interior along very rough roads in poor carts or on mule back. The European merchant is alive to these dangers and provides against them. Let us hope that American shippers, when better informed, will do likewise.

The interoceanic water way, while not requiring such careful packing, would shorten by two weeks at least the delivery of merchandise in Central America, as the transfers, sorting, and distribution of goods at Aspinwall and Panama would be done away with, to the immense advantage of the commerce of the United States.

Such are, in conclusion, the obstacles to be removed in order that the commerce of the United States with Central and South America may assume the proportions it is entitled to. To this may be added the stimulus of the projected expositions and others which will be brought about through the greater intimacy arising from friendly and easy intercourse between the people of this continent, thus establishing the desired preponderance of the commerce of America with America.

FRANCISCO SAINFIESTA.

RECIPROCITY.

I would also call the attention of our people to the fact that the Government of Guatemala entered into a reciprocal commercial treaty with us, the ratification of which took place by the Congress on the 30th day of last April (1892), permitting free entry from the United States into this Republic of twenty-nine specific articles. All of these articles have been in great use, and the opportunity has been availed of by many doing business here thus to introduce for the first time into Guatemala agricultural and mining machinery and many other articles of value, perhaps leading to other and greater concessions on the part of these governments. The following are the free goods herein referred to:

(1) Live animals.
(2) Barley, corn (or maize), and rye.

(3) Corn meal.
(4) Potatoes, peas, and beans.
(5) Fresh vegetables.
(6) Rice.
(7) Hay and straw for forage.
(8) Tar, pitch, resin, turpentine, and asphalt.
(9) Cotton-seed oil and other products of said seed.
(10) Quicksilver.
(11) Mineral coal.
(12) Guano and other fertilizers.
(13) Lumber and timber, in the rough or prepared for building purposes.
(14) Houses of wood or iron, complete or in parts.
(15) Fire bricks, lime, cement, shingles, and tiles of clay or glass for roofing and construction of buildings.
(16) Marble in slabs, columns, cornices, door and window frames, and fountains; and dressed or undressed marble for buildings.
(17) Piping of clay, glazed or unglazed, for aqueducts and sewers.
(18) Wire, plain or barbed, for fences, with hooks and staples for same.
(19) Printed books, bound or unbound; printed music; maps, charts, and globes.
(20) Materials for the construction and equipment of railways.
(21) Materials for electrical illumination.
(22) Materials expressly for the construction of wharfs.
(23) Anchors and hoisting tackle.
(24) Railings of cast or wrought iron.
(25) Balconies of cast or wrought iron.
(26) Window blinds of wood or metal.
(27) Iron fireplaces or stoves.
(28) Machinery, including steam machinery for agriculture and mining, and separate parts of the same.
(29) Gold and silver in bullion, dust, or coin.

It is understood that the packages or coverings in which the articles named in the foregoing schedule are imported shall enter free of duty if they are usual and proper for the purpose.

SAMUEL KIMBERLY,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Guatemala, February 3, 1893.

GERMAN SUGAR-BEET RETURNS FOR 1891-'92.

REPORT BY COMMERCIAL AGENT WASHBURN, OF MAGDEBURG.

The German sugar-beet industry suffered a slight setback in the last campaign. The year 1891–'92 was not disastrous by any means, but neither could it be called profitable when compared with recent years. There was a decrease of 10.7 per cent in the quantity of beets raised, and this in the face of an increase of nearly 2 per cent in acreage; these are the figures just published by Licht. A corresponding decrease in percentages as against the preceding year is seen throughout the other tables furnished. This is seemingly serious, but in reality bad weather, not bad management, is directly responsible for the unfavorable showing.

The area devoted to beet culture in 1891–'92 was 336,454 hectares (1 hectare=2.471 acres); in 1890–'91, 329,917 hectares. The average crop per hectare was 282 metric centners (1 metric centner=224 pounds) in 1891–'92 and 322 metric centners in 1890–'91. Of the roots grown in 1891–'92 there were 48.9 per cent grown by manufacturers and 51.1 per cent were purchased; the proportion for the preceding year was 48.2 and 51.8 per cent, respectively.

The number of factories fell from four hundred and six to four hundred and three; four ceased working and one new one was established. The factories began operations for the most part in the second half of September, and, owing to the introduction of improved machinery, required on an average only eighty-one days to work up the crop. The official figures giving the average number of working days are 81.2 for 1891–'92, as against 97.5 for 1890–'91. Of course, it must further be borne in mind that there was a reduction in the number of beets produced. There were 94,880,022 metric centners of roots worked up in 1891–'92 and 106,233,194 metric centners in 1890–'91, a decrease of 11,353,172 metric centners. The average quantity worked up by each factory was:

Year.	Total.	Daily.
	Met. cent.	*Met. cent.*
1891–'92	235,434	2,900
1890–'91	261,658	2,684

The sugar yield was 10.05 per cent less than that of the preceding year. The production was 1,198,156 tons for 1891–'92 and 1,331,965 for 1890–'91, a decrease of 133,809 tons. The exports for the two periods mentioned were 704,206 tons and 758,194 tons, respectively; the imports 8,695 tons in 1891–'92 and 6,845 tons in 1890–'91. The consumption per head was 10.67 kilograms for 1891–'92 and 10.85 kilograms for 1890–'91. The quantity of beets required to produce 1 metric centner of raw sugar in 1891–'92 was 8.29 metric centners; in 1890–'91, 8.27 metric centners. The yield per hectare of sugar was 35.65 metric centners in 1891–'92 and 40.76 metric centners in 1890–'91.

The average price of beets during the campaign was 1.80 marks per metric centner. The money value of the sugar produced is represented at 418,156,000 marks in 1891–'92 and 443,544,000 marks in 1890–'91. The net profits per hectare and factory were as follows:

Description.	Per hectare.		Per factory.	
	1891–'92.	1890–'91.	1891–'92.	1890–'91.
	Marks.	*Marks.*	*Marks.*	*Marks.*
For factory	227.63	185.21	192,097	150,501
For farm	67.60	139.60	54,391	113,439
Total	295.23	324.81	246,488	263,940

The revenue figures for the last campaign are not yet accessible. For 90–'91 the tax on beet roots amounted to 84,986,552 marks, the import tax on sugar to 2,256,315 marks, and the consumption tax (12 marks per 100 kilograms of inland raw sugar) to 55,732,472 marks, yielding a total income of 142,975,339 marks. The amount paid in bounty on sugar exported was 74,319 marks, thus leaving a balance of 76,301,020 marks, and equivalent to 1.53 marks per head of population. Reckoning the cost of collection at 4 per cent, the income netted to the Government was 70,672,264 marks.

ALBERT H. WASHBURN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Magdeburg, February 9, 1893.

TRADE IN TURKS ISLAND.

REPORT BY CONSUL HANCE.

The principal, and almost the only, article exported from this colony is salt. Two-thirds of all the salt produced is shipped to ports in the United States; the remainder, being ground for fishery purposes, is shipped to ports in Canada. The value of nearly all the salt exported to the United States is returned to this colony from there. This arises not entirely from a natural inclination to purchase in the market to which the staple of the colony is shipped; there is an abiding preference for most articles of our manufacture.

As there is no discrimination in imposing duties here in favor of Great Britain, the manufactures of that country have no preference in this colony, except where they can be purchased there at a cheaper rate than elsewhere. In this respect there are few articles which come in competition with American goods. Conspicuous among these may be mentioned felt and straw hats and woolen goods, which are imported from Great Britain at one-half the cost of those from America. The principal other articles which can be imported at lower prices from Great Britain are laces and embroidery, ribbons, silk, rice, some canned provisions, and some spirituous liquors. Almost all other articles can be obtained in the United States at lower prices. In a few cases, where the prices are about equal, merchants prefer to import from New York, as goods can be received within three weeks from the date of mailing an order, owing to the frequent communication with that port, whereas three months' delay would attend an order sent to Great Britain. From this same cause there is no reason to doubt that practically everything imported into this colony would come from the United States if the articles received from Great Britain could be exported from our country at the same prices as are now paid in Great Britain. Taking into consideration the great length of time required to procure goods from Great Britain and the increased freight rates and heavy charges for packing, if felt hats, woolen goods, laces

and embroidery, and ribbons could be invoiced in the United States at slightly higher prices than are now paid to the British shippers, preference would be given to our manufactures. Nothing but the great discrepancy in the prices of those goods operates against our interests.

An attempt has been made to create a trade between this colony and Halifax in commodities which have hitherto been obtained solely from New York, such as flour and some vegetables. Although a very efficient steamship communication has been established by the aid of a subsidy, the results have been inconsiderable.

The following report, setting forth in what respect the manufacturers of the United States fail to comply with the demands of consumers in this district and in what respects the manufacturers of Europe excel them in complying with the wants of the people, was prepared by Mr. Harriott, consular agent at Salt Cay:

Woolen, thread, and worsted goods and spool and machine thread are obtained in England cheaper than in the United States, while cotton goods, twine, cordage, etc., are almost exclusively imported from the United States.

American carriages find favor here, but there is not much of a demand. Knocked-down woodwork for wheels is not suitable for this climate, as foreign woods shrink very much and the native woods answer every purpose.

Drugs, chemicals, dyestuffs, etc., are supplied by the United States, with some few exceptions.

Most of the food and food products are supplied by the United States, as the freights and prices are lower; but English canned preserves in tin and pickles in glass are sold in larger quantities than the American. American condensed milk sells readily in this market. The plainer sorts of crackers and biscuits come from the United States; but fancy crackers put up in air-tight tins, which now come from England, find a good sale. Potted meats and game are supplied principally from Europe, being cheaper; while dry meats and fish, ham, bacon, lard, and butter come from the United States.

Most of the furniture used is of American manufacture. No carpets are used in this climate.

American hardware, more particularly cutlery, is appreciated for its style and quality, although a good deal of prejudice in favor of English cutlery still exists. American axes, shovels, spades, hoes, and picks are very generally used and give satisfaction; but locks, bolts, hinges, etc., and corrugated iron of English manufacture are much cheaper, and therefore supply the trade.

Hemp is not much used, manilla being preferred, and cotton bagging is preferred to jute and is imported from America.

The leather goods—boots, shoes, harness, etc.—are principally supplied by the United States. Rubber goods are not durable in this climate, and even leather gets very dry and brittle. A good trade might be done in harness by substituting canvas for leather for making traces.

Liquors, both spirit and malt, in barrels, bottles, and cases are much patronized, and consumers are not particular as to quality.

There has not been very much use for machinery, except for the purpose of grinding; but the pita-fiber industry now demands machinery for extracting the fiber. It remains to be seen whether English or American manufacturers will supply machines. Sewing machines of American make are used and give satisfaction, and also tools and appliances for working steel and iron. English saws and files are in general use, but machine-made bolts, nuts, and rivets are cheaper in the American markets.

The organs and pianos of American manufacture are generally of good tone and workmanship; but, owing to the saltness of the air, everything is liable to rust, and exposed parts should be nickel plated. There is quite a demand for accordions, concertinas, and other cheap wind instruments, which are supplied from Europe, owing to cheapness.

American paints find little favor here, as, owing to the extreme dryness of the air, the oil dries very quickly into the wood, and the paint rubs off. If the American paint manufacturers were to send samples of paints especially adapted to the climate, a very good trade might be opened. English oils for painting are preferred, being cheaper and there not being as much difference in price between boiled and raw linseed oil as in the American markets. The oil for illumination is supplied from the United States, owing to the freights and also to the cheapness of the American oil.

Plate and window glass, table glass, glass for druggists' use and supplies, lamp glass and shades, and lamps and fittings are, with few exceptions, imported from the United States.

There is a fair trade done in all articles of stationery from the United States, but some complaints are made that the quality of the bill paper and blank books is not as good as formerly.

American watches, clocks, toys, and notions, small wares, silver-plated and solid silver table ware, and jewelry give satisfaction.

The clothing trade is largely supplied by American markets, but most woolen goods come from England; hats of all kinds, caps, and most of the gloves and hosiery are imported from England.

In closing the report, it would be well to say that the only staple of this island is salt, the bulk of which goes to the United States. In return the most of the importing trade is with the United States, except in such instances as have been pointed out.

J. L. HANCE,
Consul.

UNITED STATES CONSULATE,
Turks Island, October 20, 1892.

VEGETABLE FIBERS.

ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

Jute (*Corchorus capsularis*) is not cultivated in this country; not, however, as I believe, for the reason that there are not many portions of the Argentine Republic where it could be grown to advantage, but because in a new country like this there is not the enterprise or manual labor to cultivate it. All the jute used in manufactures here, or at least a very large proportion of it, is imported from abroad. The imports, raw and manufactured, for the last two years and nine months for which we have custom-house returns were as follows:

Description.	1890.	1891.	Nine months of 1892.
	Kilograms.	*Kilograms.*	*Kilograms.*
Raw	646,364	185,418	204,338
Manufactured	178,452	372,967	111,611

While, however, there is no jute of the above variety produced in this country, there grow spontaneously in various parts of the interior numerous varieties of plants which produce a very superior fiber. To some extent these have been and are used, not only for cordage and rope, but for bagging and other more delicate textile fabrics. The most common of these are the following:

Agave (*Agave Americana—Amaryllidaceæ*), called here "pita." It is the same plant as that so well and so favorably known in Mexico, and it has all the same qualities and characteristics.

Caraguato (*Caraguato guyanenses—Bromeliacées*). The usual name for this plant here is "chaguar." It was employed by the Indians before the Spanish conquest, and has been used by the Argentine people of the interior in a primitive domestic way ever since. It grows with especial luxuriance in the Gran Chaco, and in one part there is a natural growth of it of upward of 100 square leagues in extent. The Indians produce from it a thread, with which they make their fishing nets and also the few garments which cover their bodies—generally dyed in various attractive colors. The Argentine women of the upper provinces, with their hand looms, also make various fabrics, some of them of most excellent quality. In former years there was talk about exporting this fiber; but the difficulty was in exploiting it and preparing it for market in sufficient quantities, owing to want of laborers, and, in the second place, it was found that the roads between the frontiers and the Paraná or Paraguay rivers were so infrequent and so bad that the cost of transportation would absorb all the prospective profit. Mr. Nap, in his work on the Argentine Republic, says: "The fiber of the 'chaguar' will compete with the hemp of Manila, which is said to be less uniform and durable."

Cáñamo (*Cannabis sativa—Cannabinéas*). In some of the upper provinces hemp to some extent has been cultivated for many years for its fiber. It grows, however, almost spontaneously; and, though the soil of this country gives it an excellent fiber, there is not yet sufficient enterprise to do much with it.

Linum (*Linum usitalissimum*). This is grown here in great quantities, especially in the provinces of Buenos Ayres and Santa Fé; but heretofore it has been produced more for the seed than the fiber. The exports of linseed in 1890 were 30,720,636 kilograms; in 1891, 12,233,303 kilograms; and for nine months of 1892 it was 44,160,163 kilograms. From these figures it will be seen that the amount of fiber left for home consumption must have been very considerable.

Besides these, there are numerous plants, especially in the Gran Chaco, known here only by the Indian or Guarani names, which produce fiber of more or less excellence. One of these is the "caza-guatá," a species of aloe, which grows spontaneously, not only in the Gran Chaco, but in Paraguay. A few years ago Messrs. Samuel B. Hale & Co., American merchants of Buenos Ayres, who own an extensive tract of land a few leagues above Asuncion on which this plant grows very rank, undertook the production of

fiber, not only for rope and cordage, but also for woven goods. The tests which were made by experts from the United States were most satisfactory, the fiber, as they reported, being equal, if not superior, to any produced in the world; but the field of operations was so inaccessible and so remote from market that the industry was finally given up. There is, however, believed to be a field for this fiber, fully equal to the one which manilla enjoys.

One great drawback to the production of native fiber is the lack of proper machinery and the want of enterprise sufficient to procure it. There is one establishment which has been trying to do some business in this line, located in San Fernando, but it is too remote from the places where the textile plants are grown to succeed very greatly.

In this city there are three establishments where jute bagging is manufactured, the first consuming raw material valued at $150,000 and the second raw material valued at $600,000 per annum—all imported from abroad. I have no returns in regard to the third establishment.

For several years experiments have been made in this city with the ramie plant, and they have been so satisfactory that a company has been formed here to grow the plant in large quantities in the southern portion of the Gran Chaco. The success of the enterprise will be watched with some interest.

While I have thus been able to make a very limited report in regard to the production of fiber in the Argentine Republic, I am informed that in the Argentine contribution to the Chicago Columbian Exposition there will be a full and interesting display of all the textile plants grown in this country, the whole number amounting to one hundred and forty varieties, not including the cotton plant.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, February 11, 1893.

BAHAMAS.

REPORT BY CONSUL McLAIN, OF NASSAU.

No attempt has been made to grow jute in this colony, nor is any used for manufacturing purposes. The only fiber grown here is the sisal, regarding which I have written so fully to the Department from time to time within the last three years that I am not able to add anything additional at present that would be interesting or instructive.

The very exhaustive report by Special Agent Dodge, published by the Department of Agriculture last year, which contains one of my own reports, will be found to embrace nearly every item of interest touching the feasibility of sisal culture in the United States, and to this I could add nothing new. This report is recommended to all who are interested in the subject of sisal hemp.

THOS. J. McLAIN,
Consul.

UNITED STATES CONSULATE,
Nassau, November 17, 1892.

BELGIUM.

REPORT BY CONSUL OSBORNE, OF GHENT.

Believing that it may be of some interest to know the situation of the flax, tow, and jute spinning industry in Belgium, I transmit herewith a translation of a petition recently addressed to the Belgian minister of agriculture by five spinners established at Courtrai, Roulers, Ath, and Tournay. It is a protest against the enactment of certain proposed changes in the law regulating hours of labor, etc., but incidentally reveals some interesting facts.*

JOHN B. OSBORNE,
Consul.

TRANSLATION OF PETITION OF BELGIAN SPINNERS.

ACTUAL SITUATION OF THE SPINNING INDUSTRY IN BELGIUM.

According to a recent census the flax, tow, and jute spinning industry in Belgium comprises a total of 288,500 spindles and furnishes work in its mills for about 16,000 hands, not including those who work in the culture, steeping, and thrashing of the raw material employed. The cost of the land and material used in this industry would permit at present, at the rate of 150 francs per spindle, a sum converted into real property of 43,275,000 francs. The capital necessary to fit up and operate these mills, not including a certain sum which it is customary to borrow under the form of emission of bonds or of bank credit, would amount, at the rate of 200 francs per spindle, to 57,700,000 francs.

The total number of firms among which this industry is divided in Belgium is 38, of which 12 are joint-stock companies that publish reports. Some of these establishments, and notably the most important, have been in existence for more than fifty years. The twelve stock companies have in the aggregate 211,566 spindles ($73\frac{7}{10}$ per cent of the total).

The capital required for these companies must allow—

	Francs.
For the conversions into real property	31,734,900
For funds for operating	10,578,300
Total	42,313,200

The acknowledged capital is 20,325,000 francs. The difference is due to the fact that certain companies have devoted their sinking funds, reserves, and profits to the extension of their landed property and plant; others have reduced their capital in order to obtain profits; finally, several mills have been ceded to new companies at prices below cost.

RESULTS OBTAINED DURING THE PERIOD 1881 TO 1890.

Among the twelve stock companies that now exist four were established under this form previous to 1881; the others since that date. The result is that four companies, representing 124,572 spindles, have published ten reports; three companies, representing 58,000 spindles, nine reports; one company, representing 7,764 spindles, eight reports; two companies, representing 15,000 spindles, six reports; one company, representing 3,000 spindles, two reports; and one company, representing 2,800 spindles, has published no report. Omitting these last two and establishing the average annual result for each of the ten others, we find that—

(1) The 205,736 spindles which they employ must cost for fitting up 30,860,400 francs. These are put down in the reports, redemptions entirely deducted, for 24,547,946 francs.

* That part of the petition specifying the proposed changes in the law regulating hours of labor is omitted from this report.

(2) The capital stock, which normally ought to be 41,147,200 francs, is in reality described in the report as 21,554,761 francs.

(3) The total reserves are 6,832,768 francs.

(4) The dividends distributed amount to 1,291,252 francs.

(5) The profits (dividends and reserves combined), after deduction of losses, amount to 917,065 francs.

The result is that—

(1) The dividends distributed to the stockholders amount to 5.93 per cent of the reduced capital stock and to 4.54 per cent of the capital stock increased by the accumulated reserves.

(2) The result obtained, that is to say, the total of the interests, dividends, and reserves, minus the losses, has given 4¼ per cent on the reduced capital stock and 3.23 per cent on the capital stock plus the acquired reserves.

If we deduct the figures pertaining to one of these establishments, which is in an exceptional situation, we find for nine others: Total number of spindles, 145,264; capital stock, 17,554,761 francs; conversions into real estate, 19,685,145 francs; reserves, 2,672,873 francs; dividends distributed, 407,652 francs, or 2.32 per cent of the capital stock; profits after reduction of losses, 320,214 francs, or about 2 per cent of the capital stock.

These results could not be diminished without necessitating a decrease in the number of spindles, and consequently a reduction in the working force.

EFFECTS OF THE REDUCTION OF THE HOURS OF LABOR.

Flax, tow, and jute spinning is the only branch of the textile industry which is not protected in Belgium by customs duties.

By reason of this situation, which obliges it to strive with competitors of the world, it has attained as a whole the maximum progress realized up to the present, and has succeeded in maintaining its number of spindles, whereas in certain neighboring countries, where the customs duties are considered as a protection, the decrease has reached as high as 50 per cent of the number which existed twenty years ago.

In the existing conditions the equilibrium between the spinning industries of different countries is established, and Belgian spinning, of which the situation has manifestly been improving for three years, can maintain itself and even prosper if this equilibrium is not destroyed.

It is beyond a doubt that every reduction of the hours of labor would put Belgian spinning in a state of inferiority if it does not coincide with a proportional diminution in all other countries, and that the production will be reduced in a degree proportionate to the duration of labor, with, of course, the employment of the same raw materials and the same quantity of waste.

Furthermore, the decrease in production occasioned by a reduction of the hours of labor confined to Belgium could have no influence on the price of the raw materials, which are admitted free of duty everywhere, nor on the selling prices of the yarns in the interior of the country, since the products of our competitors enter without paying duties. Every resulting increase in charges would fall upon the Belgian industry, and upon the working people which it employs.

From statistics compiled by five spinners established at Ath, Tournay, Courtrai, and Roulers, possessing together 25,000 spindles, it appears that every hour of daily labor produces 5.12 francs (98.8 cents) per spindle per year, and that consequently a reduction of an hour of labor per day represents for the 288,500 spindles an annual loss of 1,477,120 francs, of which 30 per cent, or 443,000 francs, would affect the pockets of the workmen; 60 per cent, or 886,000 francs, would fall upon the manufacturers; and 10 per cent, or 148,000 francs, would be retrieved by a reduction in general expenses.

Now, the duration of effective labor, limited to twelve hours by the law of 1889 for the workmen concerned, permits by the employment of substitutes the operation of the machinery during thirteen hours; and such a reduction as is proposed would involve for us a loss of an

hour and a half per day, which would be equivalent to a pecuniary loss of one and a half times the amount stated above. The results would be disastrous for all concerned. The average profits would be reduced in such proportions that in a situation like that which we have occupied during the past ten years many establishments would wind up with enormous deficits, notwithstanding the reduction in wages which they would be forced to impose upon the workmen.

EFFECTS OF THE OTHER MEASURES PROPOSED.

We believe that it will not be possible to employ the children merely during six hours per day without subjecting them to the risk of passing the remainder of the day in the street, where they would almost inevitably contract habits of vagabondage.

In these conditions it is probable that the majority of manufacturers would make 13 years the age of admission of children, and this measure, if it were applied to all the industries, could not injure our own; but many households among the working class would regret to see deferred for a year the relief afforded them by their children's labor.

The proposition concerning the hours of repose, which aims to fix three intermissions per day, of which that at noon shall be at least one hour in duration, only sanctions a measure already made general since the application of the law of December, 1889.

The condition of the stoppage of the machinery seems to us illegal, inasmuch as it would constitute a hindrance to the liberty of labor for men aged more than 16 years and for girls and women more than 21 years of age—liberty which has been maintained by the legislature.

The privilege of leaving the mill during the midday stoppage is established everywhere, and that of leaving during the stoppages in the morning and afternoon, each of which, according to the regulations, would only have to be a quarter of an hour in duration, would cause a disturbance which would not be compensated for by any advantage; and the application of this measure would be at the least very difficult in the large establishments which employ several thousand workmen.

CONCLUSIONS.

We believe that we have clearly demonstrated that the existing conditions in the spinning of flax, tow, and jute do not permit of the application at present of the restrictive measures to the regulations imposed by the law of 1889, without doing grave injury to the interests of the manufacturers and the workmen, indeed, even compromising the maintenance of this industry in Belgium.

SEPTEMBER, 1892.

INDIA.

REPORT BY CONSUL-GENERAL MERRILL, OF CALCUTTA.

JUTE AND JUTE MANUFACTURE.

Jute is largely cultivated in the northern and eastern districts of Bengal and to a smaller extent in the central tracts of the province. It is grown also, though not extensively, in Assam. The area under crop in these two provinces in 1887 was estimated at 1,333,000 acres, and the outturn at 1,650,000,000 pounds, more than half of which was exported to foreign countries, mainly to Great Britain and the United States.

Jute seems to be capable of cultivation on almost any kind of soil. It is least successful, however, upon laterite and open, gravelly soils and most productive upon a loamy soil or rich clay and sand. The finest qualities are grown upon the higher lands, that is, lands high enough for a man to

live without danger of drowning during the wet season, upon which rice, pulse, and tobacco form the rotation. The coarser and larger qualities are grown chiefly upon mud banks and islands formed by the rivers; indeed, these qualities prefer submerged lands, and luxuriate in the salt-impregnated soil near the mouths of the Ganges.

A hot, damp climate, in which there is not too much actual rain in the early part of the season, is the most advantageous.

When the crop is to be raised on lowlands, where there is danger of early flooding, plowing begins earlier than upon the higher lands. The more clay in the soil, the more frequently is it plowed before sowing. The preparation commences in November or December in the lowlands, and elsewhere in February or March; the soil is plowed from four to six times, the clods pulverized, and at the final plowing the weeds are collected, dried, and burned.

No special attention is paid to good seeds, nor do cultivators buy or sell their seeds. In the corner of the field a few plants are left to ripen and produce the seed that is sown broadcast the following year. The sowings, according to the position and nature of the soil, begin about the middle of March and extend to the end of June.

The time for reaping the crop depends entirely upon the date of sowing, the season commencing with the earliest crop about the end of June and extending to October. The crop is considered to be in season whenever the flowers bloom and past season whenever the fruits appear. The fiber from plants that have not flowered is weaker than from those in fruit; the latter, though stronger, is coarser and wanting in gloss. Late reaping is accountable for the coarse fiber found in market.

The average crop of fiber per acre is over 1,200 pounds; but the yield varies considerably, being as high as 4,000 pounds in some districts and as low as 250 pounds in others.

At present, as practiced by the natives, the fiber is separated from the stems by a process of retting in pools of stagnant water. In some districts the crop is stacked in bundles for two or three days to give time for the decay of the leaves, which are said to discolor the fiber in the retting process; in others the bundles are carried off and at once thrown into the water. There is some ground for thinking that if the drying of the leaves by stacking does not prevent the discoloration of the fiber, the fiber itself is likely to be benefited by the process, since it is found to separate more readily from the stems and is thereby saved from the danger of rotting from overmaceration. In some districts the bundles of jute stems are submerged in rivers, but the common practice seems to be in favor of tanks or roadside stagnant pools. The period of retting depends upon the nature of the water, the kind of fiber, and the condition of the atmosphere. It varies from two to twenty-five days. The operator has therefore to visit the tank daily to ascertain if the fiber has begun to separate from the stem. This period must not be exceeded, otherwise the fiber becomes rotten and almost useless for commercial purposes.

The bundles are made to sink in the water by placing on them sods and mud. When the proper stage has been reached, the retting is rapidly completed. The laborer, standing up to his waist in the fetid water, proceeds to remove small portions of the bark from the ends next the roots, and, grasping them together, strips off the whole from end to end without breaking either stem or fiber. Having brought a certain quantity into this half-prepared state, he next proceeds to wash off, which is done by taking a large handful, swinging it round his head, dashing it repeatedly against the surface of the water, and drawing it through toward him so as to wash off the impurities; then, with a dexterous throw, he spreads it out on the surface of the water, and concludes by carefully picking off all remaining black spots. He then wrings it out, so as to remove as much water as possible, and hangs it up on lines prepared on the spot to dry in the sun.

I am thoroughly convinced that jute can be raised on millions of acres lying near the mouths of the rivers that flow into the ocean and gulf between the cities of Savannah and Brownsville. This might be done at a profit—notwithstanding men work here (lodging, feeding, and clothing themselves) for from 5 to 10 cents per day—could a simple mechanical contrivance be invented for extracting the dry jute fiber. There is little doubt that the retting to which the jute is submitted weakens the fiber greatly, and that the introduction of a machine that would abolish this process would result in undreamed-of industries.

No trustworthy figures are available of the prime cost to the cultivators of raising and extracting the jute fiber. From what I can learn, I would estimate that this must be from three-fourths of a cent to 1 cent per pound.

The average prices in Calcutta, from which most of the jute is exported, have been as follows: In 1884, $1.50 per 100 pounds; 1885, $1.30; 1886, $1.30; 1887, $1.45. In 1890 the lowest price paid in Calcutta was 90 cents per 100 pounds, and the highest was $1.66. In 1891 the highest was $2.34 and the lowest $1. At one time in 1892 it ran up to $3.60.

There are three grades, the common, of course, selling for much less than the medium and fine.

The following is a table of the recent exports of jute and jute manufactures:

Description.	1889–'90.	1890–'91.	1891–'92.
Jute ..... cwts...	10,255,904	11,985,967	8,532,430
Gunny bags ..... number...	97,415,895	98,749,416	106,250,612
Gunny cloth ..... yards...	37,144,007	29,854,029	37,289,300

There are in India 26 jute factories, 8,101 looms, and 161,845 spindles, which give employment to 61,915 persons and use up 2,869,088 cwts. (112 pounds) of jute. They are almost exclusively employed in the gunny bag or cloth trade, a few only doing business in cordage, floor cloth, or other manufactures.

The table given above is made up from returns furnished by the Government, showing only the exports, properly so called, of bales of prepared gunny bags and gunny cloth, and do not include the millions of gunnies, etc., which annually leave the ports of India containing grain or other produce, nor those used for home purposes; so that it is estimated that far more jute is consumed in this way than the total amount appearing on export schedules.

THE SAN FIBER.

San, or sunn (pronounced sawn), is grown by itself or at times is raised in strips on the margins of fields. It is never cultivated as a mixed crop. Usually it is sown in June or at the beginning of the rains, and cut at the close of the rainy season—about the 1st of October.

It requires a light, but not necessarily rich, soil, though it can not be grown on clay. It is therefore generally sown on high, sandy lands less suited for more important crops. It is believed by cultivators that it improves the soil. As it is supposed to refresh exhausted land, it is considered a good preparatory crop and is grown as such every second or third year in fields required for sugar cane and tobacco. Sometimes it is sown as a second crop and plowed in when young as a green manure.

The land is roughly plowed twice and the seed sown broadcast, and, as it germinates immediately, appearing above ground within twenty-four hours, no weeding is required. From twelve to eighty pounds of seed are used to the acre, the opinion prevailing, however, that thick sowing is more desirable.

I have forwarded to the Department by steamer via London sufficient of both the san and jute seed to plant an acre of each, and it will be seen that, while the former is four times as large as the latter, the plant does not usually attain one-fourth the height of the jute.

Ordinarily the crop is harvested after the flowers have appeared, but often the plants are left on the field until the fruits have begun to form, and sometimes until they are ripe. In most cases the plants are pulled up by the roots, though not infrequently the stems are cut with a sickle close to the ground.

There is great difference of opinion as to whether the crop should be dried before being steeped or carried at once to the retting tanks. When stripped of the leaves, which are highly esteemed as a manure, the stalks are made up into bundles and placed upright for a day or two in water a couple of feet deep, since the bark on the butts is thicker and more tenacious than that on the upper portion, and therefore requires longer exposure to fermentation. The bundles are then laid down lengthways in the water and kept submerged by being weighted with earth. It can be generally ascertained when the retting is complete by the bark of the lower ends of the stems separating easily; but too long fermentation, while it whitens the fiber, injures its strength. It seems necessary to caution cultivators against oversteeping the plant, because, while it renders the separation of the bark from the stalk easier, it weakens the fiber. Small, shallow pools of clear water well exposed to the sun's beams seem best suited for steeping, because heat hastens

maceration, and consequently preserves the strength of the fiber, while clean water preserves the light color. Having discovered that the necessary degree of retting has been attained, the cultivator, standing in the water up to his knees, takes a bundle of the stems in his hand and thrashes the water with them until the tissue gives way and the long, clean fibers separate from the central canes. When the fiber has been separated and thoroughly washed, it is the usual custom to hang it over bamboos to be dried and bleached in the sun. When dry, it is combed if required for textile purposes or for nets and lines, but if for ordinary use, for ropes and twines, it is merely separated and cleaned by the fingers while hanging over the bamboo.

The output per acre of san fiber ranges from 150 to 1,200 pounds, but the estimated average is 640 pounds to the acre. The expenses of cultivation are as variously stated as the results of the cultivation in the way of production. As nearly as can be ascertained, the outlay for labor must be between $4 and $5 per acre.

The actual area occupied by san can not be absolutely determined, but it seems probable that there are at least 150,000 acres annually under the crop in India.

The chief purpose for which san is utilized at the present day is the manufacture of a coarse cloth or canvas used chiefly for sacking. A large amount of the fiber is used in the native cordage trade, for which it is well adapted; and quantities of the fiber are also consumed by the European rope-makers in India. The waste tow and old materials are made into paper. In many districts paper is regularly manufactured of this material, and large quantities are used by the Indian paper mills. The fiber could be used in the United States as a substitute for hemp or flax. In some parts of India the seeds of the san are collected and given to cattle. The plant itself is found to be very nourishing, causing the cows to give more milk than most other food.

Little or nothing of a definite nature can be learned regarding the extent of the trade in san fiber. It is grown in every province of India, and is nearly universally used by the people, but accurate information in regard to its export is not to be procured. The tables published by the Government show the exports from Indian ports to other Indian ports, but not the amounts shipped to foreign lands.

SAMUEL MERRILL,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, January 30, 1893.

JAVA.

REPORT BY CONSUL RAIRDEN, OF BATAVIA.

Jute, hennequen, and China grass do not grow in Netherlands India.

Sisal, or sisal hemp, is newly imported into Netherlands India, and as yet little is known regarding its cultivation.

Ramie, imported from China, is grown in Java and cultivated on the same principle as paddy. The temperature of the climate where it is cultivated is about 70° in the summer months—from November to April—and 60° in the winter months—from April to November. There is only one crop a year, grown during the rainy season—from November to April. Before sowing the seeds, which is done usually in December, the soil must be well dressed with manure. The seeds are sown on the top of the ground and covered with mats, which must be kept well watered, so as to be always damp. As soon as the seeds have taken root the mats are removed, and the plants are allowed to grow till about 10 inches high, when they are transplanted about 6 inches apart. After being transplanted the ground must be kept moist, and this is done by inundation, as with paddy. After nearly four months the plant is gathered (cut near the ground), dried, and packed in bales of 60 to 100 pounds in weight, and is used for making ropes and twine. As far as I can ascertain, there is not enough grown for export, and the bales are only roughly packed for transportation through the island. This is done by hand, as is also the rope-making.

B. S. RAIRDEN,
Consul.

UNITED STATES CONSULATE,
Batavia, March 17, 1893.

SHANGHAI.

REPORT BY CONSUL-GENERAL LEONARD.

After careful inquiry, I can not find that either jute, hennequen, sisal, or ramie (China grass) is cultivated within this consular district.

During 1891 there were imported at Shanghai from other Chinese ports 2,591.06 piculs (1 picul = 133⅓ pounds) of jute, of which 2,504.93 piculs were reëxported to Hongkong and foreign countries.

Hennequen, sisal, and ramie do not appear in the Shanghai returns of trade.

J. A. LEONARD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Shanghai, March 2, 1893.

SYRIA.

REPORT BY VICE-CONSUL KHOURI, OF BEIRUT.

Jute is not cultivated within the Beirut consular district. The small quantity of jute fibers used here for surgical purposes is imported from Europe. Hennequen, sisal, and ramie (China grass) are equally unknown to Syrian agriculturists. A ramie shrub was recently planted here in the way of

trial by Dr. George E. Post, formerly professor of botany in the American College; but, according to information received from him, it did not succeed, although, in his opinion, it could easily be acclimated in this part of the Turkish Empire.

CONSTANTINE KHOURI,
Vice-Consul.

UNITED STATES CONSULATE,
Beirut, November 23, 1892.

BRAZILIAN TRADE IN EXPLOSIVES.

REPORT BY CONSUL-GENERAL DOCKERY, OF RIO DE JANEIRO.

In reply to many inquiries reaching me relative to the dynamite and powder trade in Brazil, I beg to report that I have examined the subject and the following are the only facts I have been able to collect:

Importations in 1889 and 1890.

Description.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
	Kilograms.	*Milreis.**	*Kilograms.*	*Milreis.**
Powder	88,392	119,697	120,996	163,849
Dynamite	76,848	204,065	144,970	199,022

*1 milreis=54.6 cents.

For the year 1890 the following countries made contributions to the amount imported:

Imports by countries in 1890.

Countries.	Powder.		Dynamite.	
	Quantity.	Value.	Quantity.	Value.
	Kilograms.	*Milreis.*	*Kilograms.*	*Milreis.*
Germany	87,390	118,341	82,200	111,313
Belgium	10,116	13,699	3,120	4,225
France	.....	.....	20,020	29,816
Great Britain	23,490	31,809	39,630	53,665
Total	120,996	163,849	144,970	199,022

The total amount of duties paid in 1890 was as follows: On powder, 78,647 milreis; on dynamite, 95,530 milreis. The duties are estimated at 975 reis per kilogram.

The above figures for 1889 and 1890 are official and thoroughly reliable. Those for 1891 and 1892 are not yet published, and it has been impossible to obtain any estimate whatever, except that the importations have considerably increased.

The retail prices of these articles in this city to-day are as follows:

		Milreis.
Dynamite:		
German	per case of 20 kilograms	85
English	do	90
Powder (in barrels of 60 kilograms each):		
Aquia brand	per kilogram	·7
Diamond point	do	7
From 2 to 3 (grade)	per pound	1½
For quarries (thick)	per kilogram	1½

It will be observed from the above that none of these articles were imported from the United States. Upon investigation I find that the dealers here consider American explosives of a superior quality. None are imported, however, because, in the first place, the prices are higher, and because, in the second place, ships coming from American ports do not accept such small lots of explosives as are wanted by importers here.

O. H. DOCKERY,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rio de Janeiro, January 10, 1893.

COMMERCE AND AMERICAN INVESTMENTS IN MEXICO.

REPORT BY CONSUL-GENERAL SUTTON, OF NUEVO LAREDO.

SILVER AND RATES OF EXCHANGE.

In an article on "Silver in Mexico," dated October 16, 1890, published in No. 122 of CONSULAR REPORTS for November of that year, I reported concerning the output of white metal in Mexico, its violent fluctuations in value, and the effect of such fluctuation on the commercial and industrial enterprises of this country. The present report reviews the situation from that date to the present and summarizes the existing commercial conditions.

During the year ended September 30, 1890 (a period embraced in my former report), New York exchange had varied from 40 per cent premium down to 7 per cent premium and later had risen to about 15 per cent. As more than two-thirds of the exports of this country are precious metals, and 95 per cent of these are white metal, such violent changes (at least 25 per cent) in the gold value of the major portion of the exports was a severe strain on the commerce of the country. If the value of the mines and mining interests of Mexico be estimated at $400,000,000 in Mexican money in October, 1889, that value was increased August 15, 1890, by the rise in silver and fall in exchange above noted to $500,000,000. The total export of white metal from Mexico for the year ended June 30, 1889, was 915,663 kilograms, valued at $38,000,000. The value of this export rose suddenly 25 per cent.

At the close of the year 1890 it was hoped and expected by many of those who had most at stake and were best informed as to commercial conditions

that the then current rate of 15 per cent premium would be about the average price for the immediate future. Enterprises of large moment were undertaken, more or less on the expectation of this basis, with, of course, a fair margin for the unexpected. All felt that Mexico had passed through a very severe financial strain and had come out not only solvent, but in a much better condition than could have been anticipated. It was thought and hoped that the worst had passed, and that future enterprises would be more successful than those already established. There were many causes which led well-informed business men and officials to hold this opinion. Among these the following were especially noted:

(1) The powerful aid given by our Government in the silver-purchase act. This would furnish, for some years to come, a sure monthly market for considerably more silver than we produce. It would take up all the product of our country and absorb a considerable portion of the Mexican. It was expected that this would steady the price and enable the residue of the world's product to be absorbed by other countries.

(2) There was a general belief that the annual output of white metal had not been in recent years, and was not then, greater than could be profitably employed in commerce and the arts.

(3) It was considered certain that some international agreement would soon be reached between those countries most vitally interested which would extend the use of silver, fix its ratio with gold, and keep it at a parity with whatever ratio was established.

(4) There was also a general feeling that the annual output of white metal was nearly at its maximum; that if it should increase, the increase would not continue for many years, nor in any event exceed the increased demands of commercial needs.

In spite, however, of these apparently well-founded opinions, the price of silver has since the date of my last report gone down steadily until within a few months it has touched the lowest rate ever known. Worse than this, there are many well-informed people who expect a still lower rate, who think that silver may go as low as 25*d.* and a few who talk of 20*d.* per ounce as a future possibility.

Mexican dollars in New York have declined from 81½ cents in January, 1891, to 76¼ cents in June, 1891, 73¾ cents in December, 1891, 70¼ cents in June, 1892, and 64¾ cents in December, 1892.

MEXICO A SILVER COUNTRY.

Mexico is wholly a silver country. While nominally bimetallic, only about one million in gold is coined annually, probably not more than twice that sum is produced by the mines each year, and none of this metal is in general circulation. There is a small, though increasing, supply of paper money, but the main bulk of all transactions is based entirely upon silver dollars.

COST OF SERVICE OF GOVERNMENT DEBT.

The service of the Government debt held abroad must be met in pounds sterling, German marks, or French francs on the gold basis. These funds must, of course, be obtained by purchases of foreign exchange at the current rate. As shown above, this rate has been steadily more and more unfavorable. It really amounts at present to making a 4 per cent bond cost 6 per cent and a 6 per cent bond 9 per cent interest, and is to that extent an added burden to the treasury. There are also salaries of foreign missions, which, I believe, are always paid on the gold basis, some purchases of material for account of various departments of the Government, and other minor expenses abroad, all of which cost more by reason of the high rate of exchange.

DIMINISHED IMPORT REVENUES.

In another way the rise of exchange has affected the revenues of the General Government. There is a high import duty on many manufactured articles. The increased cost due to the rise of exchange, added to the import duties, has caused a considerable increase in domestic manufactures, thus displacing foreign goods and reducing the revenue of the Government on imports. This is particularly noticeable in cottons and mixtures, in foundry products, furniture, boots, shoes, and a considerable line of other articles. It is quite a conservative estimate to place this increased domestic output and decrease of foreign imports at $1,000,000 or $2,000,000 per annum. Since many of these enterprises are only fairly started and their future uncertain, this amount may be easily doubled in this and the coming year.

INTEREST ON RAILWAY BONDS.

There are some 9,000 kilometers of railroad in the country, nearly all of the capital of which is held abroad. Omitting any consideration of the capital stock of these companies, it will perhaps be a fair estimate to call their total bonded debt in the neighborhood of $200,000,000, bearing an interest of from 4 to 6 per cent per annum. If this interest was rated at 5 per cent on the $200,000,000, it would make an annual charge of $10,000,000. As all, or nearly all, of these bonds are held abroad and are payable in gold, they are directly affected by the difference in exchange. At 15 per cent premium (the rate in October, 1890) this $10,000,000 would have cost $11,500,000 in Mexican money. At the rate in December, 1892 (55 per cent premium), this would amount to $15,500,000, a very substantial increase and a heavy net loss to the railways.

RAILWAY EARNINGS AND EXPENSES.

Nearly all the railway earnings are paid in Mexican silver, although in some instances a freight rate on through bills is given in European or United States money. Even in these cases, however, these rates are often affected by the price of foreign exchange and against the interest of the railways.

Besides paying interest on their bonds in gold values, they have some salaries and fiscal charges abroad which must be met in the same coin. The greater number of local employés are paid in Mexican money; but, as many of these, especially among those drawing higher salaries, are from the United States or Europe, they expect and usually obtain higher prices in Mexican money when that currency is depreciated. Their repairs are mostly made in their own shops; but much of the new material and all new equipment is brought from abroad—nearly all from the United States—and must be paid for on the gold basis. Besides their earnings from freight, passengers, express, etc., nearly all of these roads receive subsidies. This being paid in Mexican money, it is worth less in gold value as silver depreciates.

The result of these conditions has been unfavorable to railway interests in this country. While there has been a general and fair increase in earnings, and one, too, which would have placed them all or nearly all on a good financial basis, the low price of silver, raising the cost of the annual interest charge abroad, the purchases of new equipment, and the foreign expenses have most seriously reduced their net earnings. Some of the lines recently constructed have been hampered in their financial management. It has been hard to obtain additional capital urgently needed to develop new territory, to build feeders, and to carry them through for a year or two until a good traffic should be built up. In some instances valuable concessions have been forfeited because capital could not be procured for investments in a silver country under existing conditions.

In these enterprises, as also in the finances of the Government, it has not been entirely the low price of silver which has caused trouble. The uncertainty as to the future has been a most important factor. If a rate could be fixed which would hold good throughout a year, capital could soon adjust itself to the condition and go on developing the country. This, however, has not been possible. Though during the past year and a half the tendency has been steadily downward, all have hoped that the last fall would be the lowest, and that there would then be a reaction.

OUR TARIFF AND MEXICAN ORES.

Owing to tariff legislation in the United States in 1889 and 1890, which shut out low-grade Mexican ores formerly exported in large quantities for reduction in the United States, a large smelting industry has been built up in Mexico. In 1889 this export traffic had just fairly begun, and had immense possibilities. Our smelters at Kansas City, in Colorado, and other places were taking large quantities of fluxing ores at such rates as made their mining profitable in Mexico and gave a large traffic from the mines out of Mexico and through a portion of our territory. It was a traffic sorely needed by the railways so recently built through a country largely undeveloped. This one item of freight might easily have amounted to $2,000,000 per annum. The traffic would at the same time have developed the mining industries of Mexico and given a general impetus to all other industries. More than this,

it would have retained for the United States the capital in these smelters and given employment in our territory to large numbers of laborers in the reduction of these ores, as well as in their handling en route.

Besides the low-grade fluxing ores there was then, and still is, a considerable and growing export from Mexico to the United States of high-grade, or dry, ores. The legislation of which I speak imposed duties on the lead contents of these fluxing ores, provided they were classed as silver ores, and, in case they were classed as lead ores, imposed a duty on the whole bulk. The result has been greatly to reduce this traffic, confining it to only such quantities as were absolutely needed.

There was, however, another result. American capital left the United States and came to Mexico to establish in this country smelters to do here the work which had previously been done in the United States. Three smelters have been erected at Monterey, one at San Luis Potosi—perhaps the largest and most complete of its kind in the world—besides several other plants in different portions of Mexico. The cost of these plants and the money directly invested in ores and in handling the business may be safely stated in round numbers at $10,000,000 in United States coin. Not only has our country lost this much capital by investment abroad and Mexico gained that much, but with this money have come many prominent and enterprising citizens and large numbers of employés. They have built up Monterey, San Luis Potosi, and other towns. The railways in Mexico which had formerly carried low-grade ores to the United States, getting a long haul, are now obliged to haul these ores shorter distances to the Mexican smelters. As Monterey is a large mining center, the mileage on ores to the smelters located there is comparatively short and the earnings of the railways much reduced in consequence. To be sure, they have the carriage of the silver-lead bullion after smelting, but that is a minor affair compared with the hauling of the original raw material.

Within sight of my office is a concentrating plant in Laredo, Tex., costing perhaps $250,000, which was finished just before this law went into operation. It has never been used. Had the duty not been imposed, the crude ores could have been brought from the near-by Mexican mines, concentrated there, and the concentrates carried forward to Kansas City and other points for smelting. The same thing occurred at El Paso, Tex., in about the same degree and for the same reasons. At that time there were many other enterprises of a similar sort in contemplation, and, but for the imposition of the duty on this lead ore, there would have been from $2,000,000 to $3,000,000 worth of such plants on our side of the border ere this.

Of course, there are compensations to the railways for this loss of carrying low-grade ores. They now bring larger quantities of coke and coal than before, but not nearly enough to compensate. The result has been that Mexico has gained from $10,000,000 to $15,000,000 of American capital, as well as hundreds of our energetic and enterprising citizens, who are rapidly building up and developing her territory.

Not only have towns been built up through this means; new railways have been built or are now in progress of construction for the sole purpose of reaching the new mining districts to carry these low-grade ores and other ores to the Mexican smelters. There are several short lines into the Catorce and the Sierra Mojada mining regions, all of which, I believe, have proved very profitable, deriving almost their entire revenue from carrying ores. Another line some 250 miles in length is now building for this express purpose, while others are projected.

SILVER PRICES AND SMELTING.

It is interesting to note how the fluctuations in silver have affected these smelting industries in Mexico. In the first place, the machinery has all or nearly all been furnished by the United States. In rough figures this machinery cost, say, $1,500,000 in United States coin. It was laid down here at a varying cost, dependent upon the price of exchange. A part of this was met at as low a rate of exchange as 10 per cent, while most of it cost as high as 25 per cent premium. Most of the skilled labor was done by foreigners, who were paid generally in Mexican money, but whose wages varied more or less according to the value of Mexican silver, that is, as silver declined in price their wages were from time to time increased. Nearly all the raw materials, such as stone, common lime, etc., were obtained near at hand, and the cheaper grade of labor was mostly native. Both these were paid in Mexican money and were not specially affected by the change in the value of silver. Their stock of ore was obtained in part from purchases from individual mine-owners, and in part from mines owned or controlled by them. These prices were often based on the New York selling price of silver bullion. In some instances, however, long-time contracts were made at so much the ounce for silver; but, as these prices were occasionally on a United States coin basis, it is difficult to fix an average of the gain or loss from this ore account.

Their coke and coal has been received in part from Mexico, but mostly from the United States and England. The major portion has come from the United States. Mexican coke and coal from the Sabinas district in Coahuila, while not of so high a grade, is yet steadily gaining year by year in quality and annual output. Where this coke and coal was purchased abroad the cost laid down at smelters increased directly as silver decreased; that purchased in Mexico was controlled by American capital, and the price varied, not directly, but indirectly, as did that of silver.

Such of those contracts for ores as were on a sliding scale based on the value of silver and lead either in United States coin or in Mexican coin have not been affected by the fluctuations in price. Those made some two years or more ago at a fixed currency rate on the ounce have been very unprofitable. It is understood that one smelter had so many of these unprofitable contracts that it was an important factor in his suspension of work. All the rest, however, are actively operating; but their profits have not

been as much as was reasonably expected. Taking it all around, they have not been so much affected by the price of silver in their operating expenses as in the marketing of their products abroad. The value of their silver-lead bullion, which is about the sole product of all these smelters, has steadily decreased month by month for the past year and a half. As a result, the interest on their plants, the most of which has to be paid abroad, has cost much more than was expected, and their net balance to profit has been seriously reduced.

SILVER OUTPUT AND EXPORT.

It was known that the establishment of these smelters would largely increase the white metal output of Mexico. The following figures show the exports for the fiscal year ended June 30, 1883:

Eagle dollars	$22,969,584
Silver bullion	4,773,928
Sulphides of silver	105,512
Argentiferous lead	13,025
Silver ores	592,189
Total	28,454,238

The exports of eagle dollars increased $3,000,000 in the fiscal year 1884, fell off $500,000 in 1885, and in 1886 and 1887 were $1,000,000 less than in 1883. In 1888 the amount went down to $16,841,000, rising in 1889 to about the same figures as 1883. In 1890 there was a slight increase to a total of $23,084,000; 1891 was considerably less, reaching only $17,622,000, while 1892 reached $26,000,000.

Silver bullion increased nearly $1,000,000 in 1884, and has held between $5,000,000 and $7,000,000 for each year up to the present.

Sulphides of silver, which was a very small item in 1883, has steadily increased, until now it is $1,500,000 per annum.

Argentiferous lead only exceeded $50,000 in one year previous to 1890, was not reported at all in that year or in 1891, but in 1892 reached $1,500,000. To this should be added $2,000,000 worth of lead reported for 1892 in exports of products other than precious metals and which is mostly argentiferous lead carrying so small a percentage of silver as to be classed as lead.

The exports of silver ores are so important as to deserve a separate statement, which is as follows for the past ten years:

Fiscal year ended June 30—	Amount.	Fiscal year ended June 30—	Amount.
1883	$592,189	1888	$5,928,304
1884	898,355	1889	7,623,589
1885	1,339,897	1890	6,394,662
1886	1,809,837	1891	8,874,497
1887	3,737,883	1892	10,478,264

These figures show the beginning and development up to date of exports of silver ore, the most profitable item, taking all things into consideration,

of the export of precious metals from Mexico. It had only fairly begun in 1882, but the succeeding years show a steady increase every year up to the last, with one exception. These ores are of two kinds, the first high-grade, or dry, ores, some of which also carry a percentage of gold, and which are free, or almost entirely free, of duty on importation into the United States. In this line there has been steady development, unchecked by the tariff and only limited by the development of the mines in Mexico, freight rates, smelting charges, and the price of silver. More than one-half of the value in dollars of the exports of silver ore is of these high grades. It must be noted, however, that one carload of high-grade ore is worth in money many times that of a carload of wet ore.

TREASURY RULINGS AND ORE EXPORTS.

The fiscal year 1890 shows a falling off of more than $1,000,000 in the total ore export as compared with the previous year. This is caused by the ruling of the Treasury of the United States, succeeded by the provisions of our tariff imposing a duty on the lead contents of the ores. Before that date silver ores had been free of duty, even though they carried a certain amount of lead. Lead ores had paid duty on the lead contents of the ore. The question as to whether a certain ore was silver or lead had been determined by the Treasury rulings as dependent upon the value of its chief constituent. In other words, if the silver contents were worth more than the lead contents of the ore, it was silver ore, and the whole contents came in free of duty; if, however, lead was the chief value, it was lead ore, and the lead contents thereof paid duty. Treasury regulations in 1889 fixed the values for the silver and lead contents of these ores in such manner as to throw many formerly classed as silver ores into the lead-ore list and reduce the traffic in this line. They could not pay the duty and be imported profitably. The tariff act of 1890 made the condition still harder. By it the lead contents of silver ores paid duty, but if they were classed as lead ores duty was collected on the whole bulk. The ruling of the Treasury as to values, fixing these by New York quotations, instead of the actual values of the country, was maintained and has helped to restrict the importations of ores whose values are near the dividing line and where a slight change in the price of silver or lead will change the classification. It will be noted that in the year 1891 the exports went up again $2,500,000. This was due to the continued development and export of high-grade ores, and also to the fact that smelters in the United States were in absolute need of a certain quantity of these low-grade fluxing ores and had to import them even if they paid duty on the lead contents. At present exporters are careful to ship only such wet ores as by our Treasury regulations will be classed as silver, so as to pay duty on the lead contents only. If they were obliged to pay on the bulk, the duty would be so great as to cause loss, instead of profit, on the shipment.

Our smelters in the United States needed exactly the class of wet fluxing ores produced in the Monterey and Sierra Mojada districts. It was understood

that sufficient quantities of these ores could not be obtained, at least at profitable prices, in the United States. It is certainly a fact that their importation was continued, although in lesser amount, after the imposition of the duties on the lead contents. Certainly this would not have continued, at least to so great an extent, had it been possible to secure similar ores in the United States. It is also stated that so soon as this duty was put into effect the smelting charge on ores was raised in the United States smelters, because they had to pay more for their fluxing ores. This traffic grew with extreme rapidity, some years being twice as much as it was the previous year, and was most profitable to Mexico in that it aided the development of large districts of low-grade ores which previously had not been sufficiently valuable to be worked.

In the State of Nuevo Leon there are several districts containing large deposits of low-grade ores carrying heavy percentages of lead, while the Sierra Mojada district, in the States of Coahuila and Chihuahua, is perhaps as extensive as that of Leadville. Railways were built for no other purpose than to take out these ores—lines which have been extremely profitable to the owners and which have also tended to develop the country in other ways. The most important item of all, however, was the immense freight traffic for long distances which the carrying of these ores gave rise to. It was particularly needed in the case of railways built from our border into Mexico and others along the frontier portion of the United States, because these lines in either country pass through undeveloped sections, and the question of profitable freights is of vital importance to their prosperity. A single line in 1889 received $500,000 in freight on this class of ores and would have received double that in the following year, while two other lines would have made, taken together, at least as much more. In other words, $2,000,000 of freights were lost to them by the imposition of these duties. Had the duty not been imposed, the present traffic would probably amount to $20,000,000 per annum in this one item, with at least one-half of it in value and perhaps four-fifths in the number of carloads of freight represented by wet ores. This might easily have brought in a freight revenue of from $3,000,000 to $4,000,000 per annum, about equally divided between the railways in Mexico and the United States.

PRESENT EXPORTS OF PRECIOUS METALS.

To show the present condition of the white-metal exports, I give the following figures for the year ended June 30, 1892:

Description.	Amount.	Description.	Amount.
Eagle dollars	$26,478,376	Bullion, silver, with gold	$1,294,087
Silver bullion	6,559,670	Argentiferous copper	317,243
Sulphides of silver	1,458,095	Other	3,900
Argentiferous lead	1,457,878	Total	48,047,513
Silver ore	10,478,264		

It will be noted that there are several articles not exported in 1883 which appear in the figures for 1892. All the above values, of course, are stated in Mexican money, invoice values, and their gold value in New York or London would vary according to the price of silver.

EXPORTS OF MERCHANDISE.

I have studied for many years with much interest the one thing which is bound, if properly carried out, permanently to improve the financial and industrial conditions of this country. This is the export of articles other than precious metals. During recent years the Federal and State governments have persistently, and with good success, sought to increase the export of these other articles. In the year ended June 30, 1883, the leading article of these other exports was hennequen ($3,311,063). This is essentially a crude material, and its cultivation and preparation, while giving employment to large numbers of laborers, does not build up the country either in cultivated fields, farms, or in an independent husbandry.

The second article on the list for that year is woods for dyes, veneers, etc. ($1,917,324). This, like hennequen, gives employment to a large number of people, but the result of the work is simply the destruction of the forests and not the establishment of new and thriving towns or country sections.

In the same year the exportation of coffee reached $1,117,191. This is the first of these products which is a positive and marked benefit to the country. To raise coffee, plantations must be cleared, planted, cultivated, and cared for. This builds up towns and villages, reduces a barren country to a fertile one, and supports a larger population at fairly remunerative wages and in better industrial conditions.

Hides and skins for the same year amounted to $1,653,166. These are derived from cattle kept on unfenced ranges, and are only a first and primitive product. Live animals in the same time amounted to $634,376. If these had been of improved stock, it would imply a much higher state of cultivation and a consequent benefit to the country. Unfortunately, however, they were almost entirely of common range stock and cost probably less than $10 per head.

Ixtle in the same year was exported to the amount of $596,533. This is not usually cultivated, but almost entirely gathered by the poorer people from the plains, hills, and mountains, and does not in any degree increase the cultivated area of the country. In fact, going through the list of these other articles of export, there are but very few of importance which greatly improve the country. Vanilla in that year amounted to $443,851; tobacco, $272,160; and sugar, $198,365. This last, like coffee, is one which, if properly developed, could be greatly increased and to the material development of the country. But its export has steadily declined in the ten years since that time, until at present it is less than $22,000 per annum. This falling off in exports does not imply a diminished production, but rather that since the opening up of intercommunication the foreign imports have fallen off because the domestic imports have been more widely distributed.

As this subject of "other exports" is of vital interest in discussing the future prospects of Mexico, with or without silver, and whatever may be the value of the latter, I give a detailed table showing the exports, both of precious metals and other products, for the years ended June 30, 1883, 1887, and 1892.

Exports of Mexico.

Articles.	Year ended June 30—		
	1883.	1887.	1892.
Precious metals.			
Argentiferous copper	.....	.....	$317,243
Gold:			
Ore	.....	.....	31,289
Coined—			
Foreign	$148,056	$35,821	33,684
Mexican	331,708	198,759	175,524
Bullion	584,039	284,506	751,408
Silver:			
Ore	592,189	3,737,883	10,478,264
Coined—			
Foreign	146,616	395,584	97,885
Mexican	22,969,584	21,955,760	26,478,376
Bullion	4,773,928	5,568,736	6,539,670
Slags	.....	5,400	3,900
With gold	.....	559,503	1,294,087
Sulphides	105,512	815,507	1,458,095
Argentiferous lead	13,025	3,044	1,457,878
Total precious metals	29,628,657	33,560,903	49,137,303
Other articles.			
Jewelry and precious stones	7,650	9,799	27,514
Garlic	.....	.....	22,413
Animals (alive)	634,376	471,471	59,336
Indigo	631	62,862	7,979
Sugar	198,365	124,034	21,889
Coffee	1,717,191	2,627,477	5,314,355
Coal (stone)	3,650	12,435	221,154
Caoutchouc	159,883	179,530	47,584
Horsehair	62,008	55,402	69,410
Copper	65,996	37,560	860,379
Shells	48,420	6,836	26,960
Leather	6	39,683	8,892
Asphalt (crude)	82,203	357,413	703,572
Pepper	8,173	9,552	20,246
Equipage	19,482	23,543	19,090
Aloes (essence)	.....	18,073	17,080
Beans	90,641	79,970	127,592
Fruit	78,898	74,815	105,395
Peas	28,855	38,557	283,252
Guano	.....	49,111	29,000
Henequen	3,311,063	3,901,628	6,358,220
Ixtle	396,533	348,842	617,302
Wool	306	269,324	96
Vegetables	29,597	32,603	2,245
Lemons	746	8,307	43,880
Woods	1,917,324	1,848,793	1,676,352
Corn	63,684	18,610	26,028
Marble	8,014	15,315	269,655
Merchandise returned	13,655	281,944	99,748

Exports of Mexico—Continued.

Articles.	Year ended June 30—		
	1883.	1887.	1892.
Other articles—Continued.			
Honey	$115,818	$44,649	$172,722
Archil	74,629	116,891	985
Pearls	18,500	19,200	19,500
Hides and skins	1,653,166	2,211,438	1,931,791
Sugar (crude)	32,132	17,321	41,636
Plants (alive)	2,200	10,235	18,327
Lead	47,555	323,205	2,363,521
Feathers	1,372	2,960	50,144
Raíz de Jalapa	34,592	13,657	42,935
Raíz de Zacaton	123,438	294,762	898,631
Tobacco	272,160	850,807	1,746,928
Wheat	208	87	268,939
Vanilla	443,851	693,891	969,612
Bonds, etc	27,191	16,494	290,626
Sarsaparilla	50,699	69,512	44,719
Other articles	144,077	142,817	283,462
Total other articles	12,178,940	15,631,426	26,330,413

It will be seen that hennequen has risen from $3,311,063 to $6,358,220, and still holds the first place. Coffee has gradually increased until the annual export is between $5,000,000 and $6,000,000. In 1883 it was third, in 1892 second, and its increase is one of the most gratifying indications of the development of the country. Its local consumption has also grown. As there is little, if any, imported, except along this border, the total production of the country is increased more than is shown by the statistics of export. Woods have held about the same figure—less than $2,000,000 per annum—during this whole period. Hides and skins close the last year only a few hundred thousand dollars more than the first. Live animals held about the same figures until the year 1891, when they fell over $300,000, and closed in the last year at less than $60,000 per annum. All these live animals, with unimportant exceptions, were imported into the United States, and the falling off—in fact, the almost entire cessation of these importations—is entirely due to the provisions of our present tariff, which shuts out absolutely everything, except a few which pay only 20 per cent ad valorem, such as sheep, goats, etc. Lead, which is stated as third in the last year, is not a precious metal, but is a direct product of mining for other precious metals. It is only taken out in conjunction with silver or other ores, and this pig lead, much of which carried silver, should properly be classed among the indirect exports of precious metals.

BALANCE OF TRADE.

The whole subject of the export of "other products" in Mexico is one of much interest. This is a debtor country, and the ever-present idea with merchants and importers is to obtain exchange on foreign countries with which

to meet their import obligations. The merchant orders from the United States or Europe cotton goods or any of the other staple imports to the amount of, say, $10,000, in foreign money. To meet this he must buy exchange in the open market, ship eagle dollars or other values in precious metals or "other products." Perhaps he finds exchange so high that he buys hides and skins, coffee, caoutchouc, chicle, pepper, fruits, hennequen, bones, ixtle, or any other of the list of exports of the country and ships them on his own account to his correspondent or commission house. Their product, when sold and turned into foreign money, enables him to pay this bill. The higher the exchange the greater is the profit in remitting other products, provided, of course, the local prices of these have not risen in proportion. At first many merchants made a very good business in getting these other products at former rates and gaining the difference in increased exchange; but this state of affairs could not long continue, and competition for their purchase has often raised the local selling rate beyond the line of profit. Occasionally, too, it has been found that this increased export, due to local demand for exchange, has reduced the New York or European price of ixtle, hennequen, or other special products of the country.

AGRICULTURAL DEVELOPMENT NEEDED.

If there could be a steady growth in the production of coffee, tobacco, sugar, and such articles as would increase the cultivated area, the financial condition would permanently improve. In the case of hennequen, ixtle, and such other special products, however, the foreign market is limited, and any excess of export gluts the market abroad and reduces the price to a ruinous figure.

It is not too much to state that the dream of all importers in Mexico, their constant study, and on which they make calculations at all hours of the day is the course of foreign exchange and the price of silver. Telegraphic information as to the New York and London markets is received daily in the principal cities and studied and anxiously computed in hundreds of counting-rooms. There is a regular formula which they consult for computing the value of the Mexican dollar as bullion, based on the price of the fine ounce of silver. Calculations back and forth from one money to another, and even to a third or fourth, are a part of the everyday life of many business men in this country. Sometimes the merchant will resolve to send eagle dollars, calculating in advance to a fraction the cost of express, commission, etc., only to have the price of silver drop before his remittance is realized and leave him a net loss as compared with what the banker would have charged him as premium for drafts.

AMERICAN INVESTMENTS IN MEXICO.

During recent years American capital has been largely invested in Mexico in a variety of enterprises aside from the establishment of smelters and railways, which I have already discussed. These investments have taken the form of mines, purchased in whole or in part or leased from native owners

and extensively developed by putting in new machinery to increase the output. Others have been short lines of railways as feeders or to tap mineral districts, purchases of large tracts of land for agricultural purposes or stock-raising and the cultivation of coffee, sugar, tobacco, etc., as well as the establishment of electric-light plants, telephone exchanges, waterworks, street-car systems, and other similar enterprises.

Mines.—On mines which were purchased before silver went to its present low price our investors have usually suffered a severe loss. At present there are but few mines which are giving as large returns as were expected when the investments were made. Such of these as are paying are doing so only because the margin for the unexpected in business matters here is usually placed much higher than on similar ventures in the United States. Still, there are a good many mines whose further development is entirely stopped, because of unfavorable business conditions. The owners, or those from whom they wish to obtain money, hesitate to advance the necessary funds to open up, because no one can tell to what price silver is going in the near future. The recent mining code promulgated by the Mexican Government has to a certain extent affected the mining interests; but on the whole and in the long run its results will, I am confident, be generally favorable. As mining is a most important industry, the General Government is particularly careful to foster and protect it in every possible way consistent with the rights of the original holders and its own revenues. If it be found that any provision of the present code operates unjustly or onerously, the Government will always be found ready and willing to modify it. If it could be known certainly that silver would go no lower or would take an upward tendency and remain there, this would be a most favorable opportunity to make investments in mines in this country. In the first place, values are now at an extremely low point. Many mining enterprises are run at a very small margin of profit, some few perhaps at an absolute loss, while only the higher grades of ores are yielding a proper profit. Besides this, purchases here are made almost entirely on the basis of Mexican dollars, so that a given sum in United States money would now purchase more than it would if the price of exchange was 25 per cent premium instead of 54 per cent. In this connection, it will be interesting to see Mexico's relative rank in the world's product of precious metals. For the calendar year 1891 the total gold output was $126,158,800. In this total the United States are first at $33,175,000; Australasia second, with $31,399,000; Russia third, with $24,131,500; Africa fourth, with $14,199,600; while Mexico is eleventh, with a total of $1,000,000. The above is computed at $664.60 per kilogram of gold. In silver for the same period the total was $186,174,200. Of this the United States produced $75,416,500; Mexico, $53,000,000; Bolivia, $15,488,000; Australasia, $12,929,300. These values are at $41.56 per kilogram of silver.

Branch railways.—I have spoken of several short lines connecting main lines with mineral districts, of which the capital is in most cases in whole or in part from the United States. The general experience in the United States

has been that feeders do not feed, or, in other words, that the greater number of these subsidiary lines have proven a burden instead of a profit to the parent company. The contrary seems to have been the case in Mexico. In fact, I know of only one case in which the subsidiary line has not been profitable. This was a short line from the Internacional to San Pedro de Colonia, in the State of Chihuahua, to bring out the cotton produced in the Laguna district. This failed absolutely, because of the utter failure of the cotton crop for several years; but a single good year, which this one bids fair to be, would make this profitable; and two or three good years would entirely pay for the line. I know of several of these feeder lines, built, however, by independent companies, where the net earnings for three or four years have been sufficient to pay all expenses of construction.

Mormon colonists.—Our citizens have in recent years made several extensive purchases of lands in Mexico. Various Mormon colonies from the United States have been and are now settling on lands in the States of Chihuahua and Sonora, where they are an important factor in the development of the country. Their method is to send trusty advance agents to look over the country, select a suitable section, and purchase large tracts of from 50,000 to 200,000 acres. They usually endeavor to obtain a good water supply from some mountain stream or lakes, to increase this by tanks to hold the rainfall, and carry the whole supply by irrigating ditches to the agricultural portions of their lands. These people bring with them in their various colonies the same characteristic thrift and industry for which they have been noted in Utah. There are several thousand of them in portions of these States, and I believe, almost without exception, all are doing well.

Stock ranges.—Our citizens other than Mormons hold extensive grazing ranges in various States, and two or three years ago were in a fair way to make large profits. They not only had a considerable market in the interior of Mexico, but could also export to the United States and take advantage of our market. In the latter event they had the option of importation for breeding purposes or to import beef cattle for the market. In the first case they came in free of duty, as, under the law, it was practically free importation to all animals which could be used for breeding. There was a large demand in the United States at that time for range cows and bulls, as well as for Mexican mares, to be used for breeding with improved stock in the United States. In a report from Matamoros in 1883 I stated the advantages of the native Mexican stock as a base for breeding improved grades of neat cattle and horses. Some of our investors in Mexico had also brought in high-grade stock and were prepared to ship good beef cattle and pay 20 per cent ad valorem on importation into the United States. As values here were always much lower than in the United States, this gave them an advantage which almost compensated for the 20 per cent duty which they had to pay. Our new tariff, however, imposes a high duty on both neat cattle and horses, and has entirely shut out their importation. The result has been to cut off more than one-half of their market, that to the United States, leaving them

only the smaller one of the interior of Mexico. This has not only reduced profits greatly, but it has caused many ranches to be operated during the last two or three years at a net loss on even the small, relatively speaking, capital invested. If there were any probability of a reduction of the United States import duty on these classes of stock, the present would be a most favorable opportunity for investment in this country. One thousand dollars in our money will purchase more than $1,500 in Mexican values. Land and cattle are cheap, and the expenses of managing ranches here are much less than in the United States.

Coffee lands.—Within recent years our citizens have made several extensive purchases of coffee lands in the central and southern portions of Mexico. The production of coffee in Mexico can easily be increased many fold. It is a staple article, commanding ready sale all over the world, and that grown here is of a good grade. Indeed, some of the finest coffee in the world is produced in Mexico—at present in small quantities. By care and cultivation the general grade can be improved and the production of the finer grades so enlarged as to become a matter of considerable importance. The present is a particularly favorable opportunity, by reason of the rate of exchange, to make purchases of such coffee lands. If these be made discreetly, after studying carefully the local conditions—supply of labor, water, nearness of transportation, etc.—there is no reason why they should not be extremely profitable. As I regard coffee as the most profitable article which Mexico can foster, and as the General Government and the various States are heartily in favor of its increase, it is fair to assume that such enterprises will be fully protected. The most favorable locations for coffee plantations are in the central and southern portions of the country. Suitable tracts, with water at hand, are easily obtainable, can now be secured at reasonable rates, and I am confident that such investments, if made with care and managed in the same manner, will be found within ten years to be a most profitable enterprise. The subject is now beginning to receive attention, and within a year or two prices will likely be considerably advanced. I have had many recent inquiries on this subject and have thought of making a trip to certain sections to study the subject in detail. I have sufficient information at hand to justify my opinion that this is perhaps the most promising opening now to be found for investments in Mexico.

Sugar lands.—The production of sugar has steadily increased during recent years, although, as I state elsewhere, the net exports have decreased, owing to the opening up of intercommunication and the better distribution of the domestic product. As with coffee, so with sugar, there are large sections of country in Mexico from the northern frontier to its most southern and western boundaries particularly adapted to the production of sugar. Several of our citizens have already established sugar refineries and are making fair profits on their investments. The most profitable method, in my opinion, would be for a strong syndicate to purchase an extensive tract of land suitable for the production of sugar and bring in Mexican, American,

or European laborers who nave had some experience in this class of work. The lands could be sold or leased to such colonists and the product contracted for in advance, giving at the same time a limited financial assistance to insure a good crop. The General Government is heartily in favor of such projects, and various States have passed special laws encouraging them. This State (Tamaulipas) has recently passed a law covering not only this, but all similar industries. It will be usually possible to obtain a special concession, either from the General Government or from the State, securing exemption from taxation or even a bonus for colonists. There is a ready and increasing market in Mexico for all the sugar that can be produced within the next five years, and that, too, at a price sufficiently high to warrant a reasonable return on the investment. As there is an import duty on sugar, the domestic product would compete on more than even terms with that of Cuba and other countries. Then, too, the financial conditions of the country are such as to preclude any considerable reduction of the tariff, so that this import duty may be safely calculated as being permanent for some years at least. As with other investments in this country, this is a specially favorable time to make the exchange, provided, of course, the prices are not inflated to keep pace with the falling price of silver.

Tobacco.—The production of tobacco in this country has steadily increased, and its exports have also increased, as shown by the table of exports, until at the present time it amounts to $1,746,928 per annum. All of the varieties of tobacco, from the *vuelta abajo* to Connecticut wrappers, can be produced here, owing to the extensive varieties of climate. Mexican cigars already have an enviable local reputation, and improved methods of cultivation, preparation, and manufacture can, I am confident, produce as good a quality as those of Cuba. The same general conditions obtain here in respect of tobacco as of coffee. Carefully made investments, purchasing large tracts of suitable land, and the raising of tobacco will give good profits on the investment. In this connection, there is another line open to our manufacturers. I have said that Mexican cigars already have a fair reputation. I have smoked certain brands for several years and find them nearly equal to similar grades of Habana. But there is much to be desired in their manufacture. There are several cigar factories in Mexico which, if run on better business methods, with proper classes of tobacco and style in preparation of boxes, etc., would be much more profitable and gain a wide foreign market. I have often wished that some capable manufacturers from the United States might purchase one or more of these plants and make such a cigar as could be made from the excellent material at hand.

Cotton.—As I have previously reported fully as to cotton, its imports, exports, production, and manufacture in this country from the earliest times down to the present, I will only mention here that the present is a specially favorable time to develop this industry. It has a greater home market than can possibly be supplied by any development during the next five years. As I intended the reports on cotton above mentioned to cover every possible

inquiry which could be made regarding that important subject, I beg to refer any one specially interested in that topic to them for fuller details.

Corn.—Besides the principal products mentioned above, the raising of corn in this country, provided, of course, care is taken to insure a suitable water supply, can be as successfully prosecuted as in the United States. During the past year the serious effects of a drought, continuing in some portions over several years, has caused immense importations of this grain from the United States. Several millions of dollars have been paid within the past year for corn, which was absolutely necessary to support the population. There is an improvement noted in this crop for this year; but I presume that importations will continue, although on a smaller scale, during all of the present calendar year.

Electricity.—In most of the important cities of this country electric-light plants have been established by American citizens, and the use of electricity as a motive power for street railways is being extensively discussed. Lines in this city are fitted with electrical appliances—overhead trolley wires—and the cars were run with this power for some months. Several of our wealthy men in various cities have studied the question with a view to purchasing the entire plants, now operated wholly by mule power, and establishing electrical motive power in their place. At present I believe these plans are only tentative—that nothing definite has been done. There is a good field in Mexico for the development of this appliance, particularly in the street-car system. This is an excellent country for street cars. Their use is general, even by the very lowest and poorest of the people. So soon as electricity can be applied with anything like the cheapness of mules, this consolidation of companies and the application of electricity will be extremely profitable. All the principal cities of Mexico are using our telephones, and these lines are being extended from month to month, not only in the cities, but to outlying ranches, mines, etc. This, also, is almost entirely an American enterprise, and, though it has not been as profitable in the past as was anticipated, it has, I am confident, a profitable future before it.

Water supply and irrigation.—Another and most important item is the conservation of the water supply or bringing subterranean supplies to the surface by means of wells. Water is the greatest, most urgent need of this country. Millions of acres of wonderfully fertile lands need only water to make them productive. There are many streams running from mountains which carry sufficient volume of water to irrigate large sections. Not a thousandth part of this water is at present utilized. An intelligent system of tanks built to hold the copious rainfall would also greatly increase the productive area. Artesian wells have not been given a trial yet because of their expense, and their possible results is a question to be determined by future experiments. Within a stone's throw of my office the Rio Grande carries enough water to irrigate lands sufficient to support 2,000,000 people in comfort. Some little has been done far upstream to irrigate a few narrow valleys, but nothing worthy of mention in comparison to what is pos-

sible. The lands here on both sides, above and below, are of wonderful fertility, and only need water and cultivation to produce abundantly both cereals and fruits. A carefully considered international concession should be obtained to utilize this great water supply, which now flows idly to the sea; so that this vast stretch of now almost desert land, only used for pastures or lying entirely untouched, might be opened up to settlers who would each cultivate his own holding and bring peace and wealth to these two frontiers. It is the same soil as that of southern California. Without water it is barren, producing only a scant grass, cactus, and thorny chaparral. With water it is of wonderful fertility, while the climatic conditions are such as to insure good crops and healthy homes. I give these statements from actual experiments which have come under my personal observation. At various places near here considerable areas have been covered with water. On these grapes and other fruits are now yielding with abundance, while corn, potatoes, and all vegetables give excellent results. The question as to whether this soil will carry water long distances in ditches and as to the amount of water required to irrigate have both been satisfactorily solved by actual experiments. The lay of the country along both sides of the river, from the mouth of Devil's River to that of the San Juan at Camargo, is particularly adapted to carrying water out from dams built in the river bed so as to cover wide tracts on either side.

Banking.—There is an excellent opening in Mexico for the investment of American capital in banking. The exports and imports run annually nearly $100,000,000. There are nearly 5,000 miles of railways and a proportionately large number of other enterprises using a considerable amount of capital. There is one principal bank in the city of Mexico, the Banco Nacional, with branch offices in several other cities. There are two or three other important banks in the capital and a few outside, but altogether the total banking capital of the country is not one-half of what could be profitably used. The Banco Nacional de Mexico on January 31, 1893, gave the following balances:

Assets.		Liabilities.	
Unpaid capital	$12,000,000	Capital, shares issued	$20,000,000
Specie on hand	10,804,611	Bills in circulation	15,540,779
Bills discounted	14,635,551	Accounts current, creditor	19,447,558
Loans on collateral	2,526,204	Reserve fund	1,376,612
Accounts current, debtor	17,948,583	Precautionary fund	1,000,000
Real estate	200,000	Second precautionary fund	750,000
Total	58,114,949	Total	58,114,949

It will be noted that the unpaid capital is $12,000,000, so that the net capital is only $8,000,000. Add to this the three reserve funds, and the total gross capital of the bank is a little over $11,000,000. There has been some talk recently of the bank calling in this unpaid capital, as it was known that the total amount could be profitably used in the business. I have not

at hand the data showing the dividends declared on the business of this bank during recent years, but understand that it has averaged more than 20 per cent per annum. The second bank of importance is that of London and Mexico. This also has branches in some of the principal cities. On the same date (January 31, 1893) its balances were as follows:

Assets.		Liabilities.	
Bills discounted	$9,182,235	Capital	$3,000,000
Accounts current, debtor	5,425,604	Reserve fund	1,000,000
Real estate in Mexico	120,829	Accounts current, creditor, and deposits	7,229,261
Cash	4,086,987	Bills in circulation	7,586,394
Total	18,815,655	Total	18,815,655

The International Mortgage Bank of Mexico, on January 31, 1893, stood as follows:

Assets.		Liabilities.	
Shares to be issued	$1,500,000	Capital	$5,000,000
Bills discounted	1,936,169	Bonds in circulation	1,965,900
Loans on collateral	2,768,742	Reserve fund	25,000
Property	107,800	Accounts current, creditor	1,502,193
Cash	516,823		
Accounts current, debtor	1,663,559		
Total	8,493,093	Total	8,493,093

It will be noted that the two banks above, the Nacional and the Bank of London and Mexico, have a circulation in paper money of about $23,000,000. Other State banks have from $5,000,000 to $7,000,000 in notes in circulation, making the total paper money out not to exceed $30,000,000. The Mortgage Bank has bonds out to the amount of nearly $2,000,000. The total capital of these three banks, including about $1,500,000 of the Mortgage Bank shares to be issued and the reserve funds, is only about $20,000,000. There are incorporated banks in other cities of the country whose capital, including reserves, is about $5,000,000; so that the aggregate in incorporated banks in the country does not exceed $25,000,000. The first-named bank is the authorized agent of the Federal Government, and also of several States and municipalities, in handling loans, paying interest, etc. The quotations of the bonds of the Banco Nacional in January, 1893, in Mexico in Mexican dollars were 70½ to 72 cents; in Paris, 530 francs; in London, £10. The bonds of the Bank of London and Mexico ($100 paid) were 175 to 200. Both these banks have been extremely profitable in the past and are apparently a very good investment at present. Of course, the uncertainty in the price of silver enters largely into their transactions and affects these profits; but, on the whole, they make calculations sufficiently liberal to cover, and usually to more than cover, any possible loss. When the amounts of the transactions of the Government, the States, municipali-

ties, railways, mining enterprises, and private merchants are considered, it seems plain to me that two or even three times this capital could be profitably employed in handling the business of the country. In this connection, however, it is necessary to state that large capital and long credits are needed for any such institution. Much of the most profitable business coming to the banks in this country is outside the usual line of the banks of the United States. It is, however, reasonably sure and brings large profit, even if this has to be deferred a year or two. I should consider it a good investment to establish in several of the principal cities of Mexico banks with from $500,000 to $1,000,000 in capital, or in the capital one or more banks with from $5,000,000 to $10,000,000. There is a large business in buying and selling exchange, in handling exchange for railways, and providing money for the temporary needs of large establishments, such as smelters, mines, manufactories, etc., sufficient to pay good profits. All such enterprises would need special concessions from the Federal or State governments, so as to secure certain immunities from taxation and to arrange for paying the stamp tax at fixed intervals instead of on each transaction.

INTERNAL DUTIES.

The people of the United States have no practical idea of the far-reaching wisdom of the provision in our Constitution prohibiting any State from laying any imposts or duties on any imports or exports. The full compliance with this mandate has been a chief base of our great national prosperity. It needs a residence in some country where this wise law does not prevail to give a full conception of its great importance.

Here in Mexico the need of absolute abolition of these restrictions is fully acknowledged by her ablest men. But they have to contend with the custom, inherited from Spain and now grown to be a system, producing so important a revenue that it can not be displaced without providing some other method for raising it. Nearly every town has its gate duties. These not only tax all forms of domestic country produce, but foreign goods which have already paid duty at the frontier. Most States have also a State import duty either against foreign imports or against both foreign and those from other Mexican States. These onerous imposts vary with local fiscal ideas and different cities and States. They are a bar, a hindrance, and a burden, laying a heavy hand on every industry.

Mexico's ablest men have studied this subject, and constitutional amendments have been adopted setting dates for its final abolition; but still the system remains in full force in most parts of the country. I mention this because no investments, except in mines, railways, and banks, can be made here without taking this subject into careful consideration.

The question of export duties is of less importance, and can be readily handled by the Federal Government when it shall seem to be imperative.

CONCLUSION.

In suggesting these lines of investment it is well to note that Mexico has during the past five years passed through a most severe financial strain. It has come out not only solvent, but in better condition than any other Spanish-American country.

Within the limitations of circumstances the General Government has been administered with much care and economy. It is now, and will be for some years, a difficult problem to finance Mexico. Its extensive area and scant population, the fact that the major portion of the inhabitants are extremely poor and small consumers or producers, the lack of water for fertilizing more territory, the present and prospective need of maintaining a considerable army to preserve public tranquility—have all to be considered.

Railways had to be built to preserve and strengthen national unity. The subsidies required for this purpose have been a heavy drain on the treasury, while the increased revenues resulting therefrom have not been sufficient to balance.

A serious, long-continued drought has involved the export of several millions of dollars to pay for imports of corn. Add to this the continued fall in price of the white metal, the chief export, and it is easy to see some of the difficulties of this problem.

During this trying period the currency has been kept on a sound coin basis, a fair and growing credit maintained on its foreign debt, and the interest met with great promptness. The debt itself is not large enough to be in any way a menace, and can easily be handled in coming years through increased revenues consequent upon the development by railways and manufactures. The country is in a state of profound peace, and has been for nearly fifteen years.

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Nuevo Laredo, March 10, 1893.

FLORENCE-AMERICAN TRADE.

REPORT BY CONSUL LONG.

EXPORTS.

The commerce of Florence is in a somewhat languishing condition, and trade with the United States is suffering thereby.

The staple articles of export from this district may be roughly divisible into two classes, viz, straw goods and works of art. Chinese competition is gradually but firmly making inroads upon the former, and the rapid and substantial growth of American art—and possibly an increased interest in other schools—interferes materially with the large purchases of paintings so extensively made in this city in former and even in more recent years for Ameri-

can homes and American trade. Mediocre pictures do not, with few exceptions, find their way to the United States any longer from this country; but marble and alabaster statuary of all grades of execution and merit are probably as much sought after and as widely sold here as ever.

The district of Bologna shows an apparent increase in shipments of $99,858.68 over the preceding year, although a decrease compared with the year 1890 of $69,941.54. The principal articles comprising the shipments to the United States from the Bologna agency are: Hemp, $256,405.12; seeds, $10,672.90; and straw goods, $33,797.22.

EXPORTATION OF WORKS OF ART.

During the calendar year 1892 there were granted by the Uffizi galleries 2,126 permits for the exportation of pictures, statuary, and numerous other miscellaneous articles of an artistic nature. The largest number of these permits were issued during the spring, a period of the year when the city is more thronged with foreigners than at any other time. The permits covered 26,816 articles, which were forwarded in 4,349 cases, estimated by the gallery officials to represent an approximate value of 2,314,587 lire. In spite of the existing regulations, by which all works of art are submitted to a rigid inspection and accompanied by a special permit, it is of frequent occurrence that valuable and well-authenticated works of art of a varied description, by old masters, escape the requisite supervision and inspection, and during each successive year this experience is more widely confirmed.

IMPORTS.

Musical instruments, refrigerators, pumps, machinery, agricultural implements, and various other articles of foreign manufacture are gradually finding a remunerative market in this district. These are mostly from Germany and England, but I am of the opinion that, if the cost of transportation of these articles from the United States should be based upon the charges from the countries named, the American goods would offer lively competition and probably in time prove decidedly preferable.

Canned meats are at present shipped from Chicago in fairly large quantities. The best, and generally by far the most desirable, petroleum used here is American. In this connection I may intimate that Russian petroleum is sent to these provinces in considerable quantities and sold in tin cases almost exactly like the American package, and I have reason to believe that the Russian oil is oftentimes purchased when the buyer imagines he is procuring the American product, as the only distinction on the package is the word "Atlantic" on the American and "Adriatic" on the Russian.

While possibly the artisans and the poorer classes prefer the Russian oil on account of its being a less expensive commodity (about 1 cent less per quart), the *bourgeois* and wealthier element give decided preference to American petroleum and decline to buy the other, owing to its alleged unpleasant smoke and imperfect light. Dealers claim that Russian oil is less dangerous in domestic use. I would recommend to American refiners, having large

traffic abroad in their product, the substitution of a can or package of some characteristic or uncommon shape, or bearing some special and unmistakable brand that could not be easily counterfeited or misunderstood. In this way the American oil would in all probability be known immediately by its distinguishing package or marks, and no one would run the risk of being misled in its purchase.

JAMES VERNER LONG,
Consul.

UNITED STATES CONSULATE,
Florence, January 31, 1893.

GERMAN IMPORTS OF BREADSTUFFS IN 1892.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

The statistics of grain importation into Germany for the year 1892, as recently published by the Imperial Government, reveal some striking changes which have taken place during the past three years in respect to the sources from which the annual deficit in domestic breadstuffs is now supplied. The most notable feature of this change is the enormously increased volume of both wheat and rye imported from the United States. From the fourth place in the list of nations which furnished wheat to the Fatherland in 1890, our country rose to the first position in 1892, the imports from the United States during the past year being nearly treble those from Russia, which still, notwithstanding meager harvests and prohibitive decrees, maintained its hold on the second place in the list.

The German importations of wheat from all countries during the three years under consideration were as follows:

Countries.	1892.	1891.	1890.
	Bushels.	*Bushels.*	*Bushels.*
Belgium	915,603	1,380,405	677,945
Bulgaria	1,298,200	43,063	119,758
Netherlands	315,513	1,015,254	770,107
Austria-Hungary	1,671,631	2,750,779	4,069,301
Roumania	3,359,331	1,568,416	2,261,869
Servia	495,527	242,668	375,797
Russia	9,417,147	18,856,759	13,572,103
Turkey	742,178	88,670	14,676
British India	1,863,236	882,319	34,330
Argentine Republic and Patagonia	2,421,818	453,722	274,813
Brazil	5,541	49,303	33,703
British North America	428,915	46,427	.....
Chile	477,395	272,995	7
United States	23,065,795	5,253,531	1,902,775
Australia	31,889	97,700	7,309
All other countries	.....	131,313	128,204
Total	46,509,719	33,133,324	24,242,697

After the United States, the most significant increase is that shown by South America, and after that Hungary and Bulgaria, while Austria-Hungary drops backward from the second position in 1890 to sixth place in 1892. This exhibit is also interesting from the very definite limit which it fixes to the capacity of British India and Australia as sources of supply for the German breadstuff market. Although Germany has regular steamship communication under her own flag and a growing export of manufactured goods with both India and Australia, they play a comparatively insignificant rôle in furnishing the foreign wheat that is required by this country.

In no European country does rye form a more important part of the daily food of the laboring classes than in Germany, and here again the comparison is hardly less striking in favor of the United States, which, although not remarkable hitherto as a rye-exporting country, has, during the past three years, increased its shipments to Germany more than sixfold, rising from the fourth rank among sources of supply in 1890—when Russia furnished seven-eighths of the entire rye import of this country—to the first place in 1892. The total importations of rye into the German Empire during the past three years were as follows:

Countries.	1892.	1891.	1890.
	Bushels.	*Bushels.*	*Bushels.*
Belgium	480,012	543,297	544,326
Bulgaria	1,003,872	130,212	200,264
France	1,783,892	668,671	233,471
Netherlands	176,624	692,874	983,793
Austria-Hungary	1,257,488	1,426,731	309,071
Roumania	981,524	853,765	869,015
Russia	4,515,612	22,654,506	27,466,872
Servia	342,301	62,453	118,898
Turkey	3,151,743	1,081,072	654,979
British North America	74,912	232,984	24,759
United States	4,982,325	2,354,371	765,833
Other countries	.....	126,804	23,350
Total	18,750,305	30,827,740	32,194,631

The important consumption of rye bread by the peasantry and industrial classes of Germany during previous years has been largely due to its greater cheapness. But during the past twelve months the deficit in the home-grown supply and the prohibition of rye exports by the Russian Government raised the price in this country until rye bread became quite as costly as the ordinary qualities of wheat bread and greatly increased the relative consumption of the latter. Whether this change in favor of the use of wheat is permanent and will withstand the return of the prices of wheat and rye to their normal relations is doubtful, and can not be determined until Russia, by virtue of a plentiful rye harvest and with restored freedom of exchange, shall resume her place as the chief source of Germany's foreign supply. But it seems probable that under the present conditions of German industry and the relation of cost of living to the wages of labor the element of cheapness in

all forms of food must remain practically decisive, at least so far as concerns the working people. So long as rye flour remains a cheaper material for bread than wheat it will continue to furnish in large proportion the staff of life to the great majority of German peasants and industrials, to whom existence involves a constant exercise of the most rigid and judicious economy.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, February 8, 1893.

BANANA-RAISING IN HONDURAS.

REPORT BY CONSUL PETERSON, OF TEGUCIGALPA.

Within the last few years the business of raising and exporting tropical fruits, and especially the banana, on the north coast of the Republic of Honduras, has grown to vast proportions. The soil and climate of that portion of the Republic seem to be especially adapted to this industry. La Ceiba, located between Puerto Cortez and Truxillo, has become one of the most important ports of the country solely through the banana trade, which finds an outlet there for the United States.

The following extract from the Honduras Mining Journal, published at Tegucigalpa by Dr. R. Fritzgardner, who is thoroughly informed upon fruit culture, is so clear and exhaustive an exposition of the industry in the Republic of Honduras that I am constrained to forward it to the Department for publication in the CONSULAR REPORTS, in order to give it a wide circulation, and especially to place it before the American public:

While the interior of the Republic of Honduras is showing its wealth in the development of mines, other sections of this favored country are also advancing with rapid strides and are establishing profitable undertakings and remunerative industries.

The north coast of Honduras is favored by its geographical situation, which places it within easy communication with the rest of the civilized world, and is also blessed with a soil of unsurpassed fertility. This coast is now the center of the fruit trade, and offers abundant facilities to those wishing for safe returns of money invested, without the uncertainty and excitement incidental to mining enterprises. Settlers from the United States or from Europe may establish their homes and reap a crop within eight months after their arrival. The cultivation of tropical staples, such as bananas, cocoanuts, pineapples, coffee, sugar, etc., is easy and requires but little outlay. Many foreigners and natives have already gone into that kind of business, and the trade of exporting fruit, which began with a little schooner about ten years ago, occupies now three lines of steamers and sixteen ships, which regularly visit the north coast of Honduras to load with bananas and all kinds of fruit destined for the American market.

The banana production of Honduras amounts now to several millions of bunches a year. The steamers carry from eight to fifteen thousand bunches, which they generally buy at from 3 to 12 reals a bunch on board. On this price the steamer reaps, of course, handsome profits, while we as settlers might wish to see the planters receive a larger share; but we can only hope for the present that the conditions of the trade will improve by making arrangements satisfactory to both parties. This end will probably be obtained by the starting up of more

plantations, the opening of new markets, the creation of new industries to utilize the fruits now going to waste, and the establishing of more lines of steamers.

The fruit trade is yet in its infancy; only a small part of the coast between Omoa and Truxillo has been cleared and planted, while millions of acres of the unoccupied fertile lands are yet covered with tropical bush and forests. East of Truxillo little or nothing has been done; yet the coast offers the same facilities for fruit-raising as the western portion of the north coast. Nothing is easier than to start a fruit farm on the Honduras coast. Having first selected a good point, let us say, as near as possible to some navigable stream, where the soil is rich and deep, the planter gets his land cleared of the bush and woods which cover it. The "peones" from the interior and those of the coast are the men who do that, and axes and machetes are the only tools used. Two men will clear a manzana of heavily timbered land in ten to fifteen days; then the "monte" is left to dry, so that it can be burned, which may be done after one month, and as soon as the fire has done its work the land is ready for cultivation.

The "matas," or suckers, are obtained from old plantations; they are generally bought at $1 per hundred. In one manzana of 100 yards square about four hundred plants may be planted about 5 yards apart, which is considered to give the best results. A man with an "azadón," or spade, can easily make the holes and plant two hundred "matas" a day. Once in the ground the banana takes care of itself; its growth is extremely rapid, and within nine or ten months each plant gives one bunch. When cutting the bunch for the market, the plant itself is cut near the ground, and soon several suckers spring up on each side of the old stump. It is advisable to reduce the number of these suckers to 3 or 4 per "mata," as the fruit will be of better quality. In about six or eight months each of these new offsprings will give a bunch, which are cut down so that new suckers spring up, and keep on producing fruit for a period of about seven years, when it is advisable to burn down the worn-out plantation and let it rest, utilizing it for some other kind of fruit cultivation.

It is easy now to calculate the outlay and probable profits of the enterprise. The men work by contract, or daily task, which gives more satisfactory results than the daily wages of 6 reals (8 reals = $1, Central American currency).

Cost of clearing a manzana	$10
400 "matas" bought at $1 per hundred	4
Planting of 400 "matas"	4
Transportation	2
Total	20
Additional cleaning during the first and second year, $5 each cleaning	10
Total cost per manzana	30

Now, let us look at the returns during the same time. The first year's crop of these four hundred plants ought to give three hundred salable bunches. The second year, having now four suckers to each "mata," would give one thousand bunches, leaving the difference for unsalable and spoiled fruit, which would give a result at 2 reals per bunch as follows:

One thousand three hundred bunches at 25 cents, $325, as the yield per manzana costing about $30, which is over 1,000 per cent profit on the original investment.

But this is not all. The fruit which now is only shipped to the United States in its natural condition could be prepared, preserved, dried, or turned into flour (we have already banana bread in Chicago); and all these various complementary industries could be established on the Honduras coast, giving remunerative employment to the laborers of the country and safe investment for foreign capitalists. While bananas produce the quickest returns for the planter, yet, in consequence of the easy decay of the fruit, large capital is required to insure a quick disposal of the crop. Many have turned their eyes to cocoanut-planting, and already thousands of beautiful palms cover the shore lands of the north coast.

A plantation of ten thousand cocoanut trees gives in about five or six years' time to the fortunate owner an annual income above all expenses of $1 per tree or $10,000 a year.

The planter on the north coast is not bound to any single undertaking; the variety in the lay out of the land calls for the variety of the product, and the increase of the cocoa, coffee, and sugar go hand in hand.

These are the agricultural features of Honduras; a wealth which never can diminish and which shall bring to this country the immigration we need for the advantageous utilization of our natural resources.

Under the agricultural laws of this country, national lands may be had free of cost, provided they are settled in good faith and a certain amount of work is done in the nature of improvement and planting. This provision applies to the interior lands; and the coast lands to a distance of 12 leagues inland may be purchased at a cost of 2 pesos per manzana. Private lands also may be had cheap.

This Government will encourage immigration of actual settlers, whether singly or in colonies, but demands good faith on their part.

Unfortunately during the last year the unsettled political condition of Honduras and the existence of yellow fever on the north coast have greatly retarded the development of that section; but it is now thought that these troubles are about at an end.

JAMES J. PETERSON,
Consul.

UNITED STATES CONSULATE,
Tegucigalpa, February 11, 1893.

AFFAIRS AT GIBRALTAR.

REPORT BY CONSUL SPRAGUE.

IMPORTS.

With regard to United States produce for sale in this market during the year 1892, I have to report the usual importations of refined petroleum, in spite of the competition offered by supplies arriving here in small parcels from the Russian districts on the Black Sea. Considerable tobacco has also reached this market direct from New York—a clear proof that the contraband trade in the weed with Spain still continues with more or less activity. But flour is the article which seems to have been most in favor for some time past, both for local consumption and also for Spain. The importations of flour during the past year have been as follows:

Whence imported.	Packages.	Equivalent in sacks of 280 pounds.
United States	59,755	29,941
Great Britain	18,980	18,336
France	4,587	3,723
Algeria	50	40
Total	83,372	52,040

The increase in importations during the year 1892, as compared with 1891, is due to the greater demand by the neighboring Spanish district, owing to the bad crops. During the past year prices in the United States have ruled proportionally lower than those of Great Britain, hence the increase in the importations from the United States.

Quantities of India wheat have also been imported, chiefly on Spanish account, which are being sent into the neighboring towns and seaports, where water and steam mills are established. In the face of bad crops during the past year this important supply of foreign wheat has considerably decreased the misery which would have occurred had Spain been dependent upon her home supplies, since bread would probably have advanced in price throughout the winter, while at present it remains stationary.

ITALIAN EMIGRATION.

The emigration to Brazil has for some time past been very great, especially to Rio de Janeiro and Santos. A single firm in Genoa has already succeeded in collecting and forwarding 38,000 emigrants during the past year on a contract with the Brazilian Government, the greater portion consisting of Italians, with quite a number of Spaniards from the agricultural districts of Spain; in fact, over 1,000 emigrants of that nationality have recently embarked for Brazil on Italian and French steamships which have called at this port to receive them. These steamships came from the coast of Italy, where they had taken in on a similar mission some 3,000 Italians, all leaving their homes in the hope of obtaining a better livelihood elsewhere.

The following table shows the approximate number of emigrants who have recently called at this port from the Italian coast on their way to the United States:

Name of steamship.	Nationality of steamships.	From—	To—	Date.	Emigrants.
				1892.	
Kaiser Wilhelm II	German	Genoa	New York	Dec. 2	366
Elysia	British	Naples	do	Dec. 4	909
Entella	Italian	Sicily	New Orleans	Dec. 7	98
Fulda	German	Genoa	New York	Dec. 16	200
Britannia	French	Naples	do	Dec. 17	482
Ems	German	Genoa	do	Dec. 18	495
California	British	Naples	do	Dec. 18	658
				1893.	
India	do	Sicily	do	Jan. 5	457
Kaiser Wilhelm II	German	Genoa	do	Jan. 13	169
Fulda	do	do	do	Jan. 21	89
Victoria	British	Naples	do	Jan. 28	357
Total					4,280

RAILWAY FROM ALGECIRAS TO BOBADILLA.

The railway from Algeciras to Bobadilla, the junction with the Andalusian railways, is now open for public traffic—passengers, merchandise, and live stock. It places Gibraltar and the surrounding district in direct communi-

cation with the Spanish railway system. Efforts are constantly being made to have a branch of this railroad extended down to the Spanish lines at a short distance from this fortress, which, if carried out, would increase traffic considerably, prove very convenient to travelers in general, and also greatly benefit the interests of the line.

HORATIO J. SPRAGUE,
Consul.

UNITED STATES CONSULATE,
Gibraltar, January 31, 1893.

BRITISH HONDURAS.

REPORT BY CONSUL LEITCH, OF BELIZE.

The colony of British Honduras, of which Belize is the capital, is estimated to contain, together with the cays which fringe its coast, an area of about 7,562 square miles, or about equal in extent to the whole of the British West India Islands. Though containing so large an area, and distant only some 900 miles from New Orleans, it is comparatively little known. Even in England, of which it is a dependency, it is often spoken of as one of the West India Islands, though forming part of the mainland of Central America.

The interior to the north and northwest and along the rivers of the southern portion has been explored, and for years in these portions the cutting of logwood and mahogany has gone on uninterruptedly. The lands to the southwest are covered with virgin forests and have never been thoroughly explored, and it is estimated that about 2,000,000 acres of the richest and most fertile lands are to be found there.

The great need of this colony is a railroad to open up the interior, and, failing this, good wagon roads. The roads at present in existence are a disgrace to the country, being for the most part merely old mahogany truck paths, which in the rainy season are in places almost impassable for horses or mules, much less for wagons. Most of the traffic with the interior is, in consequence, done on rivers, which are the natural highways. Until something is done in this direction, the interior of the colony can not be settled, and its progress must naturally be retarded. During the early part of last year a company of engineers made a survey in a southwesterly direction, but after an absence of about four months returned to Belize, stating that the obstacles in the way were insurmountable, and that the road could not be built save at enormous expense. From that time until very recently nothing has been heard of the scheme, but I am informed that the contractor, Capt. Starkey, has been paid £2,000 for the work of surveying. So far as I can learn, no plans or tracings have been handed over to the Government here.

In April of 1891 the census was taken, and 31,471 inhabitants were found within the colony, an increase of 19.75 per cent since the previous census (1881). The report has only very recently reached me.

Place of birth of the inhabitants.

Country.	Number.	Country.	Number.
British Honduras	22,712	Other British possessions	1,500
United Kingdom	193	Foreign countries	6,226
Africa	236	Other places	261
China	52	Total	31,471
East Indies	291		

Of the population 72.16 per cent are of British Honduras birth.

Occupations of inhabitants.

Occupation.	Number.	
	1881.	1891.
Mechanics	726	857
Agriculture	2,586	3,153
Laborers not agricultural	3,438	1,701
Trade and commerce	693	812
Miscellaneous	398	362
Domestic servants	1,068	2,147
Persons living on private means within the colony	.....	47
Persons living on private means without the colony	.....	6
Persons without means of subsistence	.....	4

Social condition.

Description.	1881.	1891.
Married persons	5,849	7,502
Widowers and widows	1,814	2,141
Single persons above 15 years of age	8,753	10,178

Mahogany and logwood cutting have for a number of years been the staple industries of the colony, but the cultivation of fruits of various kinds, such as bananas, plantains, oranges, limes, etc., is rapidly taking its place. From this industry a good deal of revenue arises and has contributed in a very large measure to the increase of commerce with the United States. The capital required to start a fruit plantation is comparatively small, and, the revenue gained from it when in full bearing being large, many men who were formerly laborers now own plantations on the banks of the various rivers and also comfortable town houses. All the fruit grown here is shipped to the United States, and the steamers which buy the fruit from the grower bring in exchange all the food stuffs which are consumed here. The Blue Book for 1891 shows that the United States take the lead in nearly every article imported, and this is growing to be more and more the case every day. If our manufacturers would take the trouble to have their goods better introduced to the notice of the public here, almost the entire trade of the place might come into their hands. This can not be done merely by

circulars; samples of the goods to be introduced should be sent either by special representatives or through houses here of good mercantile standing.

The climate of the country is, generally speaking, very healthful. With the exception of a slight outbreak of yellow fever of a sporadic nature, caused by exposing the dredgings of a canal in the heart of the town in 1889, no cases of this much-dreaded scourge have occurred since 1860, when, it is said, it was brought here in some ballast landed from an infected ship. The principal diseases are malarial fevers and dysentery. Persons suffering from consumption who have come here in very feeble state have been known to recover and live to a good age.

The principal business houses are owned by Scotchmen, but most of the retail trade is in the hands of Chinamen and natives. The stores keep in stock nearly every article needed in a country of this kind.

With forests yielding such a variety of woods suitable for building, furniture, and cabinetwork, it has always been a source of wonder to me that a man of enterprise should not have established a sawmill. The number of durable woods suitable for these purposes is said to be over one hundred. Very little of the woods other than mahogany, cedar, logwood, rosewood, and fustic is exported. The constant cutting of the woods mentioned is making it yearly more difficult to secure suitable trees for export, and unless the country be opened up this industry will have to be abandoned.

JAMES LEITCH,
Consul.

UNITED STATES CONSULATE,
Belize, February 1, 1893.

LABORATORY EXPERIMENTS WITH BEETS.

REPORT BY COMMERCIAL AGENT WASHBURN, OF MAGDEBURG.

The agricultural experiment station at Halle has rendered a distinct service to professional beet-growers in organizing and directing a series of experiments with different varieties of seed. The results are tabulated and published annually. Those for 1892 were recently given out through the medium of the Magdeburgischen Zeitung. The system adopted to secure the most impartial and reliable results is about as follows:

First of all, the seeds are selected only from the largest growers. Care is taken to prevent any known "sample" seeds from being included. These average lots are forwarded to the experiment station, where they are designated by symbols, the key to which is known alone to the professors in charge. This done, a number of small parcels is then made up and put into the hands of certain representative beet-growers in Germany and Austria-Hungary, who, in a progressive spirit, have united to second the efforts of the experiment station.

For 1892 seventeen varieties were selected, of which twelve were of Klein Wanzlebener origin, four Vilmorin, and one Imperial. With few exceptions, the samples for the laboratory were gathered in the fields by one of the professors. Every hundredth beet was laid aside and a section cut out with the improved "Segmentreibe" of Keil and Dolle, Quedlinburg. The tests were all made at Halle in accordance with the so-called "Alkoholbrei-Digestionsmethode."

It would be impracticable within the limits of this report to give in detail the results of each test. Two or three selections will suffice to show clearly the methods pursued. Although, as has been stated, seventeen varieties were accepted, only fifteen appear in the tabulated statements, this number being most convenient for the method of arrangement of rows. Each variety was planted in duplicate rows, *a* and *b*, the beets recurring at distances of 8 and 12 inches, respectively.

One of the beet farms taken by way of illustration is that of Graf von der Schulenburg-Heszler of Vitzenburg, near Nebra. The soil is a deep clay. In order of rotation, the field selected had been previously sown with winter wheat after being fertilized with 1 centner of Chile saltpeter. In the spring the soil was turned over and sown with summer wheat. In the middle of September the field was plowed with a steam plow. The fertilizers further employed per morgen (1 morgen=0.625 acre) were 1 centner (1 centner=224 pounds) of lime precipitate containing 20 per cent of phosphate of lime, 2 centners of Chile saltpeter, and again on June 10, just before the second hoeing by hand, 1 centner of Chile saltpeter. The sowing took place April 6, and plants appeared April 28. The field was hoed five times, thrice by hand and twice with the machine. The thinning out occurred May 29 and the transplanting June 8. The following table shows the monthly average temperature and rainfall, according to observations taken at the meteorological station at Halle, 37.5 kilometers distant:

Month.	Temperature.	Rainfall.
	*Degrees.**	*Centimeters.*
April	8.6	6.9
May	13.2	36.1
June	17.1	33.6
July	18	16.8
August	20.4	34.4
September	15.3	82.6

*Celsius.

The growth in parcels 1, 9, 12, 13, and 14 was very backward. After the application of the Chile saltpeter just before the second hoeing a marked improvement was visible. The leaf growth of parcels 9, 12, 13, and 14 was comparatively slow. Gray caterpillars did much damage up to the time of harvest. The samples were selected October 19, and the weighing took place on October 28 and 29.

Results with beets from farm of Graf von der Schulenburg-Hessler, of Vitzenburg.

No.	Cultivator.	Variety.	Sugar in the beet.		Sugar in juice.		Quotient.		Beet yield per morgen.		Sugar per morgen.		Number of beets per morgen.		Seed stalks.		Weight of a sample beet.	
			8.	12.	8.	12.	8.	12.	8.	12.	8.	12.	8.	12.	8.	12.	8.	12.
			P. ct.	*P. ct.*	*P. ct.*	*P. ct.*			*Cent.*	*Cent.*	*Cent.*	*Cent.*			*P. ct.*	*P. ct.*	*Grams.*	*Grams.*
1	David Sachs, Quedlinburg.	Improved Klein Wanzlebener.	14.4	14.1	16.6	16.3	87.8	90.6	165.4	168.9	23.82	23.83	26,300	28,740	3.79	3.86	486.9	455.3
2	Schobbert & Co., Quedlinburg.	.....do.....	15.5	14.9	17.4	15.7	90.2	85.3	152.1	187.4	23.58	27.92	25,520	19,260	2.68	3.05	421.1	440
3	Baumeier, Quedlinburg..	.....do.....	15.7	15.2	18	16.8	90	88.9	173.3	169.8	27.22	25.82	23,760	18,890	2.72	2.93	463.8	429.5
4	Hornung & Co., Frankenhausen.	.....do.....	15.3	14.7	17.6	16.4	89.8	88.2	158.4	167.7	24.24	24.65	26,270	19,680	1.65	2.62	324.2	431
5	A. Strandes, Zehringen..	.....do.....	14.5	14.3	16.6	15.9	89.7	87.4	180.9	178.7	26.23	25.55	24,430	21,270	3.87	4.22	385.3	467.6
6	Wesche, Raunitz.....	.....do.....	14.6	13.8	16.1	15.3	88.5	87	184.6	179.2	26.95	24.73	25,330	20,480	3.41	4.3	379.6	434.6
7	Heine, Kloster, Hadmersleben.	.....do.....	15.2	15	16.7	16.5	89.3	89.2	163.1	168.9	24.79	25.33	24,200	19,220	3.04	4.32	377.3	426.8
8	Ziemann, Quedlinburg...	.....do.....	15.4	15	17	16.3	89	87.7	153.9	167.7	23.7	25.15	25,590	21,810	1.21	1.51	359.6	411
9	Strandes, Zehringen.....	Vilmorin, saccharíferous.	14.6	13.8	16.6	15.3	88.3	87	122.3	122.5	17.86	16.91	21,060	18,030	6.45	7.99	273	358.6
10	Schreiber & Son, Nordhausen.	Improved Klein Wanzlebener.	15.2	14.4	16.9	15.8	89	86.8	152.1	160.2	23.13	23.07	23,260	19,300	2.99	3.56	399.3	404.2
11	Dippe Brothers, Quedlinburg.	Improved Klein Wanzlebener, Élite.	15.5	14.9	17.1	16.3	89.5	89.6	145	160	22.48	23.84	24,040	19,450	3.77	3.99	379.6	441.5
12	Sugar factory, Klein Wanzleben.	Original Klein Wanzlebener.	15.3	14.9	17	16.5	89	89.7	162.8	167.3	24.91	24.93	24,010	19,570	2.42	3.08	353.5	427.5
13	F. Knauer, Gröbers.....	Improved Imperial.....	14.9	14.3	16.6	16.1	89.2	89.5	161.2	151.3	24.02	21.64	25,380	22,070	2.82	3.3	297.6	399.3
14	Dippe Brothers, Quedlinburg.	Improved White Vilmorin.	15.9	15.1	17.5	16.4	89.7	91.1	115.3	115.8	18.34	17.84	23,100	17,980	1.43	1.19	266.2	307
15	Mette, Quedlinburg.....	Élite Klein Wanzlebener, saccharíferous.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Average.....	.....	15.1	14.6	17	16.1	89.2	88.4	156.46	161.81	23.66	23.63	24,446	19,696	3.02	3.57	369.1	416.7

NOTE.—The figures 8 and 12 at the head of columns refer to the distance which the beets were planted apart, as explained by the commercial agent; the 8 designates beets planted 8 inches apart, and the 12 beets planted 12 inches apart.

Another scientific grower is Amtsrath von Zimmermann, of Benkendorf. The soil devoted to beet culture is of moist clay, with a substratum of gravel. The preceding crop was rye fertilized with half a centner of Chile saltpeter and 2 centners of Thomas slag to every morgen. The soil was plowed 14 inches deep with an engine on August 15. The field was further fertilized in the autumn with 2 centners of Thomas slag to the morgen. This was turned in and 2 centners of Chile saltpeter applied on April 13. One centner of Chile saltpeter was also spread about the roots just before the second hoeing. On April 1 the field was evened up, and, beginning with April 8, harrowed and rolled several times in succession. The seeds were sown April 11, and plants were visible May 6. Hoeing by hand followed at three different times, viz, May 21, June 9, and June 23. On May 31 and June 1 the plants were thinned out and on June 1 and 2 transplanted. The average temperature and rainfall were as follows:

Month.	Temperature.			Rainfall.
	Morning.	Noon, in shade.	Evening.	
	*Degrees.**	*Degrees.**	*Degrees.**	*Centimeters.*
May	6	14.4	11.4	1.51
June	11	17.4	16	1.58
July	10.9	18	17	1.86
August	12	20.8	19.2	2.62
September	9.5	16.3	14.3	6.13

* Réaumur.

In parcels 2, 5, 7, and 9 the germination was incomplete. With the advent of July a parasitic growth was remarked, especially in parcels 2, 9, 14, and 15. During the second half of this month the plants presented a sickly appearance, but revived somewhat after the rain of August 2 and 3. After the middle of August the roots were abnormally dry and pithy, but they improved after the heavy rain of September 4 and pushed out a vigorous growth of tops. On July 23 caterpillars made their appearance, doing the most damage in parcels 2, 5, 7, and 13; but they disappeared about the middle of August. The samples were gathered November 1, and the weighing took place November 10 and 12.

Results with beets from farm of Amtsrath von Zimmermann, of Benkendorf.

No.	Cultivator.	Variety.	Sugar in the beet.		Sugar in juice.		Quotient.		Beet yield per morgen.		Sugar per morgen.		Number of beets per morgen.	Seed stalks.	Weight of a sample beet.	
			8.	12.	8.	12.	8.	12.	8.	12.	8.	12.			8.	12.
			Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Cent.*	*Cent.*	*Cent.*	*Cent.*		*Per ct.*	*Grams.*	*Grams.*
1	David Sachs, Quedlinburg.	Improved Klein Wanzlebener.	13.6	13	15	14.4	86.7	83.2	156	128	21.22	16.64	22,934	7.7	425.6	332
2	Schobbert & Co., Quedlinburg.	.....do.....	14	14	15.5	15.6	82.5	84.4	148	120	20.72	16.8	20,927	8.29	324.2	296
3	Baumeier, Aschersleben.	.....do.....	14.3	14.6	16.1	16	86.1	84.7	152	126	21.74	18.4	22,165	6.89	321.5	311.5
4	Hornung & Co., Frankenhausen.	.....do.....	14.5	14.3	16.1	15.9	86.1	84.1	142	114	20.59	16.3	24,143	4.31	281.8	266.3
5	A. Strandes, Zehringen..	.....do.....	13.5	13.5	14.9	15.3	85.2	84.5	150	130	20.25	17.55	25,254	5.64	319	289
6	Wesche, Raunitz.....	Extra improved Klein Wanzlebener.	14	13.9	15.9	15.4	86.4	84.6	152	124	21.28	17.24	23,619	7.44	306	301
7	Heine, Kloster, Hadmersleben.	Improved Klein Wanzlebener.	14.4	14.4	15.9	16	86	85.6	144	122	20.74	17.57	22,637	6.01	293.3	306.4
8	Ziemann, Quedlinburg..	Klein Wanzlebener (A).....	14.2	14.4	15.7	16.5	85.3	85.5	142	118	20.16	16.99	23,645	6.41	291	310.1
9	Strandes, Zehringen.....	Sacchariferous Vilmorin...	13.5	14	14.9	15.8	83.7	84.9	122	106	16.47	14.84	23,110	16.06	305.9	253.1
10	Schreiber & Son, Nordhausen.	Improved Klein' Wanzlebener.	14.7	14.9	16.2	16.7	85.3	87	134	114	19.7	16.99	25,271	5.32	277.9	316.5
11	Dippe Bros., Quedlinburg.	.....do.....	14.7	15.5	16.2	17.1	85.7	88.6	130	126	19.11	19.53	27,869	5.62	284	289
12	Sugar factory, Klein Wanzleben.	Original Klein Wanzlebener.	15	15.3	16.6	17.9	86.5	87.3	136	124	20.4	18.98	24,984	6.06	263.5	323.7
13	F. Knauer, Gröbers.....	Improved Imperial.....	13.4	14.7	14.9	16.6	84.7	86	140	136	18.77	20	25,983	6.45	297.1	303.1
14	Dippe Bros., Quedlinburg.	Improved White Vilmorin.	14.7	15.9	16.3	17.4	84.9	86.6	116	130	17.05	20.67	25,572	5.35	246.2	253.3
15	H. Mette, Quedlinburg..	Élite Klein Wanzlebener, sacchariferous.	13.3	14.7	15	16.4	84.3	86.8	124	124	16.5	18.23	26,556	8.04	302.3	335.2
	Average.....	.....	14.12	14.47	15.7	16.2	85.3	85.6	139.2	122.8	19.65	17.38	24,318	7.04	302.6	299.1

Still another farm—this one in Austria—is that operated in connection with the Leipnik-Lundenburger Sugar Factory, of Meierhof Tupetz, in Bohemia. The soil is a light loam. The preceding yield was barley, which had been fertilized with five loads of stable manure to every morgen. The field was plowed in October and still further fertilized with three loads of manure, 30 kilograms of sulphate of ammonia, 75 kilograms of Chile saltpeter, and 150 kilograms of biphosphate. The soil was rid of the fertilizing stuffs in the spring, and the sowing took place April 15. Plants appeared May 4. There were three hoeings by hand and two by machine. On June 7 the plants were thinned out and on June 13 transplanted. The average temperature and rainfall were:

Month.	Temperature.		Rainfall.
	6 a. m.	6 p. m.	
	*Degrees.**	*Degrees.**	*Centimeters.*
April	4.4	8.7	34.1
May	9.1	15.1	40.3
June	12.7	18.3	84.1
July	13.1	18.1	46.9
August	14	19.9	19.9
September	10.1	14.2	104.4

*Réaumur.

The best growth was seen in parcel 5, the poorest in parcels 9 and 14. Harvesting took from October 26 to November 3. The weighing occurred November 4. Sixteen varieties were tested on this farm.

Results with beets from the farm of Leipnik-Lundenburger Sugar Factory, of Meierhof, Bohemia.

No.	Cultivator.	Variety.	Sugar in the beet.	Sugar in juice.	Quotient.	Beet yield per morgen.	Sugar per morgen.	Number of beets per morgen.	Seed stalks.	Weight of a sample beet.
			Per cent.	*Per cent.*		*Centners.*	*Centners.*		*Per cent.*	*Grams.*
1	David Sachs, Quedlinburg	Improved Klein Wanzlebener	11.5	12.8	89.7	285.2	32.8	27,165	7.75	562
2	Schobbert & Co., Quedlinburg	do	12.9	14.1	84.9	289	37.28	26,543	7.51	512
3	Baumeier, Quedlinburg	do	13.5	14.4	86.2	288	38.88	26,129	6.23	554
4	Hornung & Co., Frankenhausen	do	12.5	13.8	84.7	267.8	33.48	24,841	4.13	524
5	A. Strandes, Zehringen	do	11.4	12.7	82.5	296.6	33.81	25,536	8.64	582
6	Wesche, Raunitz	do	12	13.1	83.4	270.6	32.47	28,318	6.91	492
7	Heine, Kloster, Hadmersleben	do	12.7	14.3	85.6	239.4	30.41	26,168	11.15	500
8	Ziemann, Quedlinburg	Improved Klein Wanzlebener (A)	12.6	13.7	85.6	254.6	32.08	25,752	4.54	476.8
9	A. Strandes, Zehringen	Saccharifferous (Vilmorin)	12.1	13.6	82.9	203.8	24.66	24,314	19.91	498.8
10	Schrieber & Son, Nordhausen	Improved Klein Wanzlebener	13.3	15.2	86.4	247.6	32.94	28,265	15.3	460
11	Dippe Bros., Quedlinburg	Élite Klein Wanzlebener	14.5	15.8	88.3	283.6	41.12	25,187	8.1	468
12	Sugar factory, Klein Wanzleben	Original Klein Wanzlebener	14.2	15.4	88	279.8	39.46	31,780	5.6	540
13	F. Knauer, Gröbers	Improved Imperial	12.7	14.1	86	246.2	31.27	28,181	5.18	496
14	Dippe Bros., Quedlinburg	Improved White Vilmorin, saccharifferous	14.1	15.4	85.6	207.8	29.3	30,014	15.79	552
15	Mette, Quedlinburg	Élite Klein Wanzlebener, saccharifferous	13.1	14.2	85.5	280	36.69	29,426	13.68	466
16	Knauer, Gröbers	Mangolds	12.9	14.3	86.7	252.4	32.55	32,076	13.29	546

Summary of the experiments for the past decade.

Variety.	Yield per morgen.									
	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1891.	1892.
Klein Wanzlebener.	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*
Klein Wanzlebener, original	229	200	219.7	222.7	188	177.3	187.3	221.2	180.23	157.39
Dippe Brothers, Quedlinburg, Improved Klein Wanzlebener	212	197.5	188.6	202.2	183.4	162.3	180.1	213.3	178.37	156.54
Schreiber & Son, Nordhausen, Klein Wanzlebener	.....	.....	.....	215.9	205.3	183	191.4	235	181.4	155.31
Braune, Biendorf, Klein Wanzlebener	.....	.....	.....	.....	201.5	.....	186.9	229.8	197.03	.....
Schlitte & Co., Aumühle, Klein Wanzlebener	.....	.....	.....	.....	184.9	158.3	.....	.....	.....	.....
Knoche, Walwitz, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	176.3	221.2	182.27	.....
Heine, Kloster, Hadmersleben, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	182.4	210.3	182.33	160.14
Hornung & Co., Frankenhausen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	199.1	.....	150.66
A. Strandes, Zehringen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	192.1	218.3	.....	164.97
Heinrich Mette, Quedlinburg, specialty	.....	.....	.....	232.4	198	182.6	186.8	228.2	193.33	.....
Martin Grasshoff, Quedlinburg, Improved White Imperial	.....	.....	.....	216	179	169.8	166.9	217.6	.....	.....
S. L. Ziemann, Quedlinburg, sugar beet, type D (1892, type A)	.....	.....	.....	.....	.....	.....	.....	210.7	179.46	162.64
Knauer, Gröbers, Improved White Imperial	.....	.....	.....	182.8	.....	160	.....	.....	.....	162.53
C. Schobbert, Quedlinburg, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	.....	201.94	158.09
H. Mette, Quedlinburg, Elite Klein Wanzlebener, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	178.29	160.31
Average	220.5	198.8	204.2	212	191.4	170.5	183.4	218.6	185.5	158.9
Vilmorin.										
Improved White Vilmorin, original	177	158.5	163.9	176.9	150.8	.....	.....	.....	.....	.....
Dippe Brothers, Quedlinburg, Improved White, most saccharíferous	166	.....	165.2	173.8	148.8	142.5	147.4	190.7	164.33	139.58
Schreiber & Son, Nordhausen, Improved Vilmorin	.....	.....	.....	167.6	141.4	142.5	152	.....	.....	.....
Hornung & Co., Frankenhausen, Improved Vilmorin	.....	.....	.....	.....	152.8	158.6	.....	.....	.....	.....
Heinrich Mette, Quedlinburg, Vilmorin	.....	.....	.....	.....	.....	141.2	154.9	.....	.....	.....
A. Brandes, Zehringen, Vilmorin	.....	.....	.....	.....	.....	143.3	143.6	.....	.....	137.67
G. Wesche, Raunitz, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	158.74	130.7
Knauer, Gröbers, Mangold	.....	.....	.....	.....	.....	127.9	.....	.....	.....	153.3
Average	171.5	158.5	164.6	171.2	148.5	142.7	151.4	190.7	161.5	140.3

Summary of the experiments for the past decade—Continued.

Variety.	Polarization of juice.									
	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1891.	1892.
Klein Wanzlebener.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Klein Wanzlebener	13.1	15.2	14.8	14.77	16.69	18.1	17.44	17.3	17.85	17.4
Dippe Brothers, Quedlinburg, Improved Klein Wanzlebener	14	16.4	15.9	15.68	17.51	18.8	17.89	17.81	18.56	17.47
Schreiber & Son, Nordhausen, Klein Wanzlebener	.....	.....	.....	15.2	16	17.1	16.62	16.34	18.3	17.15
Braune, Biendorf, Klein Wanzlebener	.....	.....	.....	.....	15.8	.....	17	16.77	16.9	.....
Schlitte & Co., Aumühle, Klein Wanzlebener	.....	.....	.....	.....	17	18	.....	.....	.....	.....
Knoche, Wallwitz, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	17.48	17.7	18.11	.....
Heine, Kloster, Hadmersleben, Klein Wanzlebener	.....	.....	.....	.....	.....	.....	17.56	17.64	18.27	17.03
Hornung & Co., Frankenhausen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	16.86	.....	16.79
A. Strandes, Zehringen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	16.64	16.34	.....	15.87
Heinrich Mette, Quedlinburg, specialty	.....	.....	.....	16.1	16.3	17.6	16.6	16.3	16.79	.....
Martin Grasshoff, Quedlinburg, Improved White Imperial	.....	.....	.....	15.4	15.4	17	16.71	16.07	.....	.....
S. L. Ziemann, Quedlinburg, sugar beet, type D (1892, type A)	.....	.....	.....	.....	.....	.....	.....	16.19	18.37	16.84
Knauer, Gröbers, Improved White Imperial	.....	.....	.....	15.2	.....	18	.....	.....	.....	16.3
C. Schobbert, Quedlinburg, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	.....	16.3	16.43
H. Mette, Quedlinburg, Élite Klein Wanzlebener, most sacchariferous	.....	.....	.....	.....	.....	.....	.....	.....	17.72	16.7
Average	13.6	15.8	15.4	15.99	16.38	17.8	17.1	16.84	17.72	16.8
Vilmorin.										
Improved White Vilmorin, original	15.4	16.6	16.3	16.38	17.36	.....	.....	.....	.....	.....
Dippe Brothers, Quedlinburg, Improved White, most sacchariferous	16.2	17	16.8	16.7	17.86	18.8	18.15	17.81	18.49	17.61
Schreiber & Son, Nordhausen, Improved Vilmorin	.....	.....	.....	16.77	16.91	18.5	17.87	.....	.....	.....
Hornung & Co., Frankenhausen, Improved Vilmorin	.....	.....	.....	.....	17.5	17.8	.....	.....	.....	.....
Heinrich Mette, Quedlinburg, Vilmorin	.....	.....	.....	.....	.....	18.4	17.7	.....	.....	.....
A. Brandes, Zehringen, Vilmorin	.....	.....	.....	.....	.....	18.3	17.4	.....	.....	16.3
G. Wesche, Raunitz, most sacchariferous	.....	.....	.....	.....	.....	.....	.....	.....	18.03	16.8
Knauer, Gröbers, Mangold	.....	.....	.....	.....	.....	18.1	.....	.....	.....	16.3
Average	15.8	16.8	16.6	16.61	17.41	18.32	17.63	17.81	18.26	16.75

Summary of the experiments for the past decade—Continued.

Variety.	Quotient.									
	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1891.	1892.
Klein Wanzlebener.										
Klein Wanzlebener, original	84.8	85.3	84.5	84.5	87.2	88.8	88.7	90	87.68	88.08
Dippe Brothers, Quedlinburg, Improved Klein Wanzlebener	85.2	86.1	85.4	83.9	87.3	88.9	88.8	88.7	89.32	88.05
Schreiber & Son, Nordhausen, Klein Wanzlebener	.....	.....	.....	85.3	86	88.2	87.8	88.1	87.83	87.65
Braune, Biendorf, Klein Wanzlebener	.....	.....	.....	.....	85.9	.....	88.1	87.6	87.99	.....
Schlitte & Co., Aumühle, Klein Wanzlebener	.....	.....	.....	.....	86.4	87.8	.....	.....	.....	.....
Knoche, Wallwitz, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	87.3	87.5	88.45	.....
Heine, Kloster, Hadmersleben, Klein Wanzlebener	.....	.....	.....	.....	.....	.....	88.7	89.2	88.31	87.33
Hornung & Co., Frankenhausen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	87.8	.....	86.55
A. Strandes, Zehringen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	87.4	87.8	.....	85.6
Heinrich Mette, Quedlinburg, specialty	.....	.....	.....	85.5	86.9	88	87.7	86.2	87.16	.....
Martin Grasshoff, Quedlinburg, Improved White Imperial	.....	.....	.....	84.7	84.2	87.2	88.3	86.4	.....	.....
S. L. Ziemann, Quedlinburg, sugar beet, type D (1892, type A)	.....	.....	.....	.....	.....	.....	.....	86.8	88.72	86.85
Knauer, Gröbers, Improved White Imperial	.....	.....	.....	83.2	.....	88.3	.....	.....	.....	86.9
C. Schobbert, Quedlinburg, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	.....	86.29	85.79
H. Mette, Quedlinburg, Élite Klein Wanzlebener, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	87.45	87
Average	85	85.7	85	84.52	86.27	88.17	88.09	87.84	87.93	86.98
Vilmorin.										
Improved White Vilmorin, original	86.2	85.3	86.2	84.9	86.1	.....	.....	.....	.....	.....
Dippe Brothers, Quedlinburg, Improved White, most saccharíferous	87.3	85.8	86.3	85.2	89.2	88.4	87.7	89.1	88.09	87.52
Schreiber & Son, Nordhausen, Improved Vilmorin	.....	.....	.....	85.2	85.1	88.8	87.1	.....	.....	.....
Hornung & Co., Frankenhausen, Improved Vilmorin	.....	.....	.....	.....	86.7	88.6	.....	.....	.....	.....
Heinrich Mette, Quedlinburg, Vilmorin	.....	.....	.....	.....	.....	86.6	87.5	.....	.....	.....
A. Brandes, Zehringen, Vilmorin	.....	.....	.....	.....	.....	88.4	87.3	.....	.....	85.9
G. Wesche, Raunitz, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	87.72	86.1
Knauer, Gröbers, Mangold	.....	.....	.....	.....	.....	88.2	.....	.....	.....	86.8
Average	86.8	85.6	86.3	85.1	86.78	88.17	87.6	89.1	87.91	86.58

Summary of the experiments for the past decade—Continued.

Variety.	Sugar in the beet.									
	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1891.	1892.
Klein Wanzlebener.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Klein Wanzlebener, original	12	13.9	13.6	13.41	15.67	16.01	15.38	15.3	16.02	15.54
Dippe Brothers, Quedlinburg, Improved Klein Wanzlebener	12.7	14.8	14.5	14.14	16.16	16.57	15.55	16.21	16.8	15.84
Schreiber & Son, Nordhausen, Klein Wanzlebener	.....	.....	.....	13.66	14.89	15.17	14.71	14.57	16.31	15.44
Braune, Biendorf, Klein Wanzlebener	.....	.....	.....	.....	14.75	.....	14.85	14.96	15.02	.....
Schlitte & Co., Aumühle, Klein Wanzlebener	.....	.....	.....	.....	15.71	15.74	.....	.....	.....	.....
Knoche, Wallwitz, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	15.53	15.87	16.37	.....
Heine, Kloster, Hadmersleben, Klein Wanzlebener	.....	.....	.....	.....	.....	.....	15.36	15.8	16.4	15.45
Hornung & Co, Frankenhausen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	15	.....	14.93
A. Strandes, Zehringen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	14.4	14.47	.....	14.11
Heinrich Mette, Quedlinburg, specialty	.....	.....	.....	14.54	14.98	15.67	14.78	14.54	15	.....
Martin Grasshoff, Quedlinburg, Improved White Imperial	.....	.....	.....	13.86	14.29	15.22	14.91	14.23	.....	.....
S. L. Ziemann, Quedlinburg, sugar beet, type D (1892, type A)	.....	.....	.....	.....	.....	.....	.....	14.49	16.51	15.15
Knauer, Gröbers, Improved White Imperial	.....	.....	.....	13.7	.....	15.94	.....	.....	.....	14.66
C. Schobbert, Quedlinburg. Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	.....	14.57	14.86
H. Mette, Quedlinburg, Élite Klein Wanzlebener, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	15.95	14.99
Average	12.4	14.4	14.1	13.89	15.21	15.76	15.05	15.04	15.9	15.1
Vilmorin.										
Improved White Vilmorin, original	13.6	15	14.6	14.79	15.89	.....	.....	.....	.....	.....
Dippe Brothers, Quedlinburg, Improved White, most saccharíferous	14.2	15.5	14.9	15.03	16.28	16.76	15.96	15.96	16.71	15.87
Schreiber & Son, Nordhausen, Improved Vilmorin	.....	.....	.....	15.21	15.39	16.28	15.49	.....	.....	.....
Hornung & Co., Frankenhausen, Improved Vilmorin	.....	.....	.....	.....	15.93	15.84	.....	.....	.....	.....
Heinrich Mette, Quedlinburg, Vilmorin	.....	.....	.....	.....	.....	16.44	15.37	.....	.....	.....
A. Brandes, Zehringen, Vilmorin	.....	.....	.....	.....	.....	16.2	15.22	.....	.....	14.56
G. Wesche, Raunitz, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	16.1	15.07
Knauer, Gröbers, Mangold	.....	.....	.....	.....	.....	16.41	.....	.....	.....	14.63
Average	13.9	15.3	14.8	15.02	15.87	16.32	15.37	15.96	16.41	15.03

Summary of the experiments for the past decade—Continued.

Variety.	Sugar per morgen.									
	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1891.	1892.
Klein Wanzlebener.	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*	*Centners.*
Klein Wanzlebener, original	27.48	27.67	29.9	29.62	29.3	28.39	28.81	33.71	28.79	24.3
Dippe Brothers, Quedlinburg, Improved Klein Wanzlebener	26.92	29.18	27.36	28.53	29.55	26.89	28	34.42	29.9	24.65
Schreiber & Son, Nordhausen, Klein Wanzlebener	.....	.....	.....	29.58	30.86	27.76	28.16	34.04	29.44	23.84
Braune, Biendorf, Klein Wanzlebener	.....	.....	.....	.....	29.57	.....	27.75	34.17	29.38	.....
Schlitte & Co., Aumühle, Klein Wanzlebener	.....	.....	.....	.....	29.08	24.92	.....	.....	.....	.....
Knoche, Wallwitz, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	27.4	34.92	29.71	.....
Heine, Kloster, Hadmersleben, Klein Wanzlebener	.....	.....	.....	.....	.....	.....	28.03	33.1	29.75	24.6
Hornung & Co., Frankenhausen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	29.79	.....	22.41
A. Strandes, Zehringen, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	27.67	31.43	.....	23.16
Heinrich Mette, Quedlinburg, specialty	.....	.....	.....	33.77	29.66	28.61	27.61	32.99	28.89	.....
Martin Grasshoff, Quedlinburg, Improved White Imperial	.....	.....	.....	29.93	25.55	25.74	24.88	30.73	.....	.....
S. L. Ziemann, Quedlinburg, sugar beet, type D (1892, type A)	.....	.....	.....	.....	.....	.....	.....	30.36	29.49	24.55
Knauer, Gröbers, Improved White Imperial	.....	.....	.....	25.04	.....	25.5	.....	.....	.....	23.69
C. Schobbert, Quedlinburg, Improved Klein Wanzlebener	.....	.....	.....	.....	.....	.....	.....	.....	29.28	23.44
H. Mette, Quedlinburg, Élite Klein Wanzlebener, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	28.29	23.88
Average	27.2	28.43	28.63	29.41	29.08	27.12	27.59	32.7	29.29	23.85
Vilmorin.										
Improved White Vilmorin, original	24.07	23.78	23.81	26.18	24.36	.....	.....	.....	.....	.....
Dippe Brothers, Quedlinburg, Improved White, most saccharíferous	25.73	.....	24.64	26.23	24.24	23.92	23.53	30.37	27.32	22.03
Schreiber & Son, Nordhausen, Improved Vilmorin	.....	.....	.....	25.39	21.83	23.26	23.55	.....	.....	.....
Hornung & Co., Frankenhausen, Improved Vilmorin	.....	.....	.....	.....	24.56	25.12	.....	.....	.....	.....
Heinrich Mette, Quedlinburg, Vilmorin	.....	.....	.....	.....	.....	23.21	23.8	.....	.....	.....
A. Brandes, Zehringen, Vilmorin	.....	.....	.....	.....	.....	23.21	21.85	.....	.....	20.62
G. Wesche, Raunitz, most saccharíferous	.....	.....	.....	.....	.....	.....	.....	.....	25.44	29.74
Knauer, Gröbers, Mangold	.....	.....	.....	.....	.....	20.99	.....	.....	.....	22.43
Average	24.9	23.78	24.23	25.9	23.75	23.28	23.27	30.37	26.38	21.07

The slightly inferior showing for 1892 is attributed to the weather, which was unfavorable to an unusual degree. That such comparatively satisfactory results were attained notwithstanding is regarded as proof of the steady progress made in recent years.

ALBERT H. WASHBURN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Magdeburg, March 18, 1893.

MANUFACTURE OF WOOD PULP IN GERMANY.

REPORT BY CONSUL-GENERAL MASON, OF FRANKFORT.

Nothing can more forcibly illustrate the supremacy of the German people in all that relates to the application of chemistry to practical manufacture than the enormous development of the wood-pulp industry in this country during the past ten years. This development is the more remarkable because it has been achieved in the face of several serious disadvantages, with which the pulp-makers of several neighboring countries—notably Sweden, Norway, and Austria—have not to contend. In Scandinavia and the Austrian Empire the forests are of vast extent and mainly native growth, whereas in Germany they are largely artificial, planted and grown under Government supervision. Wood is therefore nearly twice as costly here as in the other countries named; labor, coal, and railway freights are higher; while water power and interior water transportation are comparatively limited.

But, notwithstanding all these obstacles, the German chemical pulp industry has developed until its annual production is now 150,000 tons, of which one-third is exported and the remainder consumed in this country. Ten years ago most of the wood pulp produced in Germany was manufactured by the soda process; since then the superiority of the sulphite method, as perfected by the brothers Mitscherlich, has been so obvious that the product of 1892 included only 12,500 tons of soda pulp, the remaining 137,500 tons being produced by the sulphite process. The exports of wood pulp and cellulose to the United States from southern and western Germany during the past year were valued at $583,053, of which $10,292 came from the district of Kehl, $12,399 from Mayence, $495,592 from Mannheim, $16,669 from Munich, and $48,073 from the consular district of Frankfort.

The inception of the Mitscherlich sulphite process dates from about 1871, and is an improvement on the Tilghman system, which was patented in England in 1866. For a number of years the Mitscherlich brothers maintained their German patents and received royalties on all pulp manufactured in this country by their methods, so that the price was maintained at about $10 per 100 kilograms (220 pounds). But, after a long and determined litigation, the German courts set aside the Mitscherlich claims, and from that time the number of factories increased to sixty-three, of which twenty-one export part or all of their product, twenty-one sell only to German consumers,

and twenty-one consume their own pulp in the manufacture of paper and cellulose articles. This abolition of the inventors' royalties and the consequent increased number of factories so sharpened competition that the price of air-dried chemical pulp has declined to about $5.25 per 100 kilograms, and, if the statement of manufacturers may be credited, there is now comparatively little profit in the business. Consumers have become very fastidious and exacting in respect to quality, only the whitest and purest grades having now any chance in the competition for export to France or England. The scarcity of water power compels the use of steam power by most of the factories, and the important advance which has occurred in the cost of German coal since 1888 has borne heavily on the pulp makers, handicapped as they already were by costly wood, labor, and freights.

But the steadily increasing consumption of paper and paper goods, particularly in the United States, must in the end transfer a large portion of the pulp industry to our own country; and, in view of the frequent inquiries which have been received at this office during the past year for technical information on the German methods of cellulose manufacture, a succinct account of the Mitscherlich process is herewith submitted.

The underlying principle upon which this process is based is the fact, well known in chemistry, that the resinous matrix or incrusting material which surrounds and holds together the individual fibers of wood is soluble and produces a chemical reaction with certain aqueous solutions of bisulphites, notably that of the bisulphite of lime. The problem was to apply the bisulphite under conditions which would completely and quickly eliminate the incrusting substance without unnecessarily weakening the fiber, and for this purpose it was found best to apply the solution at a high but carefully governed temperature and under a mechanical pressure that would force the chemical solution into every pore of the woody structure and enable the loosened and dissolved matrix to be removed by washing with water. The more intense the heat and the stronger the chemical solution employed the greater the injury to the fiber, and in perfecting his method Dr. Mitscherlich was careful to ascertain the exact minimum degree of both heat and pressure that would best promote the desired result. His process is, in its integrity, somewhat slower than other modifications of the sulphite system, but each manufacturer regulates these conditions to fit the nature of the wood employed, the quality of product desired, and the relative capacities of boiling and finishing apparatus. The Mitscherlich process, as practised at Okriftel, Aschaffenburg, and other points in the district of Frankfort, may be described as follows:

The wood used is pine, mainly of the variety known in Germany as "Tannenholz," which grows straight and slender in the densely planted forests, the supply for this region coming from the Black Forest and the Odenwald. The trees, when cut in the latter forest, are from 8 to 12 inches in diameter and have few or no branches except near the top. They are carefully selected, felled, and cut into lengths of about 8 feet, the bark

shaved off, and knots and other blemishes removed by hewing or boring. The selection and preparation of the timber for pulp-making is a most important part of the business, the workmen assigned to that duty being among the most intelligent and liberally paid of all occupied in the manufacture. Experienced German pulp-makers ascribe much of the difficulty encountered by their American competitors in making high-grade cellulose to the lack of sufficient men in the United States who are capable of properly selecting and preparing the wood.

Thus prepared, the sticks are brought to the factory and passed one by one through a machine armed with a powerful revolving knife, which at each revolution slices obliquely through the log, cutting off a chip about 3 inches in length, which is split by impact of the knife into shreds varying from mere splinters to 2 or 3 inches in thickness. From the cutting machine the chips are carried to the boilers, which in the Mitscherlich process are made large enough to contain not less than 10 tons of wood. Such a boiler is from 30 to 40 feet in length and 12 to 14 feet in diameter, and is set either vertically or horizontally in strong masonry. The boiler is pierced with manholes for introducing and removing the wood, and is rigged with a system of branching pipes, controlled by valves and leading to the steam generator, the water reservoir, and the tanks where the chemical solution is stored after preparation by one of two processes which will be hereinafter described. Gauges and cocks are also provided to enable the attendant to read and regulate the pressure in the boiler and to draw off samples of the liquid contents, from which the progress of the operation can be accurately observed.

The treatment of the wood in the boiler includes two stages or operations—digesting and boiling—the first being performed with live steam and spent bisulphite solution, the second with fresh bisulphite and steam heat applied through coils of hardened lead pipe laid round the lower portion of the interior to about one-third the height of the boiler, the proportion being about 50 square feet of heating surface to each 1,000 cubic feet of its capacity. As sulphurous acids attack iron and steel with great avidity, it was found necessary to make these steam coils of lead and to protect the interior of the boiler with a lining of acid-resisting material. For the latter purpose lead was likewise at first used; but Dr. Mitscherlich made an important improvement in the substitution of hard, glazed earthenware tiles or bricks, firmly laid against a backing of sheet lead closely packed between the tiles and the steel shell of the boiler. These lining bricks are made with edges tongued and grooved, and the lining, when properly made, lasts a long time and thoroughly protects the shell, the point of greatest danger being the edges of the upper manholes, which are exposed to the action of sulphurous gases, rather than liquid solutions.

The boiler having been filled with wood and the manholes securely closed, steam is turned in from the generator, and at the same time there is introduced through a pipe at the bottom waste or spent solution of bisulphite of lime. As the pressure increases the steam penetrates the pores of the wood,

expelling the air and opening the way for the chemical solution, which gradually rises, submerging and penetrating the wood and replacing the steam, attacking in proportion to the strength of the lye the resinous matter in which the fiber is imbedded. This steaming and softening process, technically called "digesting," occupies from eight to ten hours. When it is finished the steam is shut off, the lye withdrawn, and the fresh solution of strong bisulphite of lime turned in. This cold injection condenses the steam, producing a vacuum, which sucks the solution upward without the aid of pumping until the requisite quantity has been injected. The valve is then closed and steam turned into the coils, and the second operation—"boiling"—begins. This commences gradually as the temperature rises and continues from eighteen to twenty hours. This gradual raising of the temperature by the heat of the steam coils is a very important part of the process and is conducted with great care. At about 158° F. the chemical action of the bisulphite upon the resinous incrusting matter begins. At 212° steam begins to generate, and the pressure forces the liquid sulphite into the innermost pores of the wood. If the heating has been properly regulated, the pressure at the end of thirty-six hours will have risen to from 45 to 50 pounds to the square inch, and this is regarded the proper limit. If the pressure shows a tendency to exceed this, the heat is shut off and a valve opened which permits the sulphurous gases to escape into the sulphite tank, where they are condensed and the chemical principle saved. During the whole boiling process samples of the liquid are withdrawn from the boiler and tested, so that the attendant keeps exact trace of the progress of the chemical action going on within. These tests are made by mixing in a test tube a known quantity of the bisulphite liquid with a certain proportion of ammonia and noting the quantity of normal sulphite of lime that is precipitated.

The exact nature of the chemical reaction which takes place between the bisulphite and the incrusting elements of the wood is highly interesting from a scientific standpoint, but is too technical and withal too vaguely determined to come properly within the scope of this report. When the boiling is finished the valve leading to the sulphite tank is opened and the gases withdrawn and condensed therein until the pressure is reduced to nearly the atmospheric limit, when the waste sulphite or "lye" is drawn off from the bottom of the boiler, to be used in the digesting stage of the next charge. The manholes are then opened and a flood of water poured in, which washes the softened, pulpy wood out into receiving tanks, where it is washed and stirred in fresh water until the free sulphite is eliminated.

Thence it is passed in a stream of water under a gang of stamps, similar to a quartz stamp mill, which macerates it to a coarse white pulp, and passes on through a series of rotary mixers, and, in the manufacture of cellulose, is run out in an endless web, like ordinary paper. This is about the thickness of medium pasteboard, and is either cut into sheets or wound into rolls of about 50 kilograms in weight for packing. When exported as pulp it is air-dried and packed in bales of about 200 pounds in weight.

At every stage of the process after the softened wood comes from the boiler the utmost care is taken to purify it from every blemish and impurity. Small specks and fragments of knots are picked out of the pulp as it flows through the various machines. A keen-eyed operative stands where the cellulose web is reeled out from between the final pair of steam-heated rollers and with a sharp knife deftly stabs and removes each passing blemish, and in the packing room each sheet and roll is carefully examined inch by inch and the tiniest speck that would mar the whiteness and purity of the material is eliminated. In one factory at Aschaffenburg forty workmen are thus employed, besides forty more who examine and prepare the wood before it enters the mill. It is this extraordinary care in inspecting the raw material and finished product which gives to the German cellulose its superiority and enables it to hold its place in foreign markets in competition with the cheaper qualities of local manufacture. It is said to be the lack of sufficient skilled operatives and the high wages that such labor commands in the United States that have hitherto constituted the principal advantages of the German pulp-makers in maintaining their American trade against home competition. Another point in their favor is the fact that American pine is more resinous than the German, and not only requires longer treatment, but loses more of its substance, while producing less fiber from a given amount of wood.

It remains to speak briefly of the most important of the auxiliary processes involved—that of preparing the liquid bisulphite of lime, which is the principal agent used in the digesting and boiling operations above described. For this there are several methods, the two principal of which are (1) the passing of sulphurous acid gases, obtained by burning crude sulphur or pyrites in open-air kilns, through a weak milk of lime, and (2) by exposing wet limestone or dolomite (a native double carbonate of lime and magnesia) to the action of sulphurous acid gas. The latter method was perfected by Dr. Mitscherlich, who ranged the lumps of limestone and dolomite on racks in tall, wooden towers, through which the gases are made to rise as in a chimney, while the sulphite solution is washed down by water introduced at the top and slowly dripping down over the stone during the action of the gases.

The milk-of-lime method requires even simpler apparatus, and, being therefore less expensive and equally satisfactory, is generally used. As crude sulphur is not found in Germany, pyrites, which are abundant in the country, are usually employed, and for that purpose are roasted in kilns similar to those used in the manufacture of sulphuric acid, the gases being purified from dust and cooled by passing through long brick flues and cold iron pipes before coming in contact with the milk of lime.

There is no secret or mystery about any part of the process; but care, experience, and good management are required at every step to secure satisfactory results and enable a manufacturer in these days of keen competition and close profits to maintain his trade. So confident are the Germans of their ability to do this that, notwithstanding the increased cost of labor and

materials and the low import duty which enables Austrian pulp to be sold at a profit in Germany, the number of factories is still increasing, and a large establishment at Aschaffenburg is now erecting new works which will double its present capacity. The frequency of cholera and other epidemics which increase the cost and trouble of making paper from old rags, added to the steadily increasing consumption of paper in all civilized countries, which requires to be met with some new and innocuous material, opens, it is believed, a secure future for the production of wood pulp, in which the American manufacturers, notwithstanding their present alleged disadvantages in point of material and skilled labor, will assuredly play an important rôle.

FRANK H. MASON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort, February 23, 1893.

SUGAR CROP OF SAGUA LA GRANDE.

REPORT BY COMMERCIAL AGENT MULLEN.

All the sugar estates in this consular district have commenced grinding, though some of them but recently. Every day confirms the prophecy in my former report of the reduction in the present crop.

It may be safely estimated that the crop of this jurisdiction will be 30 per cent less than that of last year, and, should the rains make their appearance in the month of May, it is impossible to say how much greater the decrease will be. The planters complain of the premature ripening of the cane under such bad conditions that the juice contains a great amount of "cachazo" (refuse matter), which augments the work of boiling and thus curtails the amount of daily work calculated upon. It is at present impossible to make any calculation of the planting of spring cane, as everything depends on how the season opens.

D. M. MULLEN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Sagua la Grande, February 9, 1893.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 153.—JUNE, 1893.

GLOVE MANUFACTURE IN AUSTRIA-HUNGARY.*

Before submitting information concerning the leather used in the manufacture of kid and other fine gloves, I should state that kid, whether in the shape of leather or of gloves prepared therefrom, forms only an infinitesimal fraction of the trade in Austria. Whatever is known or distributed under this denomination is calf or lamb, or it refers generally to the finer qualities here concerned. The only case where this is not a commercial misnomer is that of foreign, especially French, imports. Dalmatia and Montenegro supply kid leather, which is utilized to some extent, but which is not as yet the basis of any new development of the industry.

SUPPLY OF SKINS.

The supply of skins is chiefly drawn from the countries bordering on the Transleithan portion of the Empire, the regions of the Balkans, and the countries of the Mediterranean. Thus, sheep and lamb skins are obtained from Servia, Bulgaria, Turkey, and Macedonia; goat from Asia Minor and Greece; while lambskins are imported from Italy, Spain, and the districts belonging to the lower Danubian countries, which afford especial advantages as to the mode and cost of transport.

Most of the skins are bought in a dried state. It is alleged that not only can their quality be more readily ascertained and defects discovered in this state, but that salting may be avoided, which induces heat and consequently putrescence during transit, resulting in detriment to the corium and thus detracting from the value of the final product. The wet state is not objected to, and is even favored in the case of sheepskins, while lambskins are bought salted or air dried.

PREPARING THE SKINS.

The preparatory process before depilation consists in softening the skins in water. The pits where this is done are of various sizes, according to the

*See No. 150 for other reports on this subject.

magnitude of the establishment. A common size would be about 5 to 6 yards square, capable of holding about 2,000 skins, though some are much larger, with a capacity for as many as 4,000 or 5,000. Pureness of the water is held to be of paramount importance in working (lifting, piling, draining) the skins in the pits; and the presence or absence of iron or inorganic substances, such as are frequently found in well water, in a great measure determines the choice of a site for a tannery. The agents for depilation proper most in use among tanners in the Vienna district are arsenic and sulphide of sodium, combined in either case with an admixture of lime. The time required therefor is from ten to fourteen days, according to the thickness of the skins and the quality of the chemicals employed. The latter are applied by means of a brush of piassava fiber 3 to 4 meters long and tied loosely to a stick. With this fiber the spread-out skins are struck. Four men are employed in this work on 1,000 pieces, taking about one hour to complete the operation. In the case of simple liming great care is required so that the right proportion of it be taken—say 6 to 7 kilograms—as any excess would, by causing the deposition of sulphurate of lime in subsequent tawing with alum, render the skins hard and brittle, seriously impairing their value.

Owing to the proverbial secretiveness of those engaged in the mystery of tanning, no satisfactory information could be obtained concerning the exact sequence of the ensuing operations of fleshing, bating, scudding, washing, and drenching; though it may be assumed that any single method, if at all employed, does not essentially differ from the corresponding method used in other countries where the manufacture of white leather for fine gloves and other fancy articles has reached a high point of excellence. This much may be said, however, with regard to the agents for bating, that the choice lies between dog's dung and sulphuric acid. The former, owing to the conservative spirit prevailing in this trade, still asserts its predominance in spite of its uncleanliness. The freeing of the skins from chemicals, which, in its turn, immediately follows the mechanical working of the skins known as "walken," whereby a uniform spotless appearance, even in translucent light, is sought to be imparted to them, is next relieved by a course of treatment with bran—by some considered an essential feature in the preparation of this kind of leather. The bran, with an admixture of common salt (advocated by some and deprecated by others), is boiled in water of 30° Réaumur, and the fermentation induced thereby is aided by the concurrent development of lactic acid.

Tawing takes place in revolving drums or casks, except in the case of piecework, when treading with the feet in vats is thought more economical. The drums are provided with a kind of paddle wheel to tumble the skins about, and steam is used as a motive power. The manual labor required is in connection with an opening, through which the skins are taken out and replaced. The tawing ingredients and their proportions, as given by an expert, are as follows: Flour, 5 kilograms; alum, 9.5 kilograms; common salt, 4 kilograms; with 55 eggs, beaten and carefully added to the dough of

flour and alum, and about 60 liters of water. Alum soaps, as recommended by Knapp, have been tried as substitutes for high-priced materials, such as flour and the emulsion of yolk of eggs; but this process, equally with those of Aikin and Watt, wherein some of the treatments hereinbefore alluded to have been altered or eliminated, seems to find little favor either in actual practice or in the theory of writers on the subject. Nor is it possible to describe with any pretension to accuracy the different mechanical processes which, after the skins are tawed and left to dry in the open air over poles or artifically in drying chambers, ensue up to coloring for gloves. Their sequence is stated by one authority to be as follows:

(1) Stretching by hand.

(2) Drying, as above mentioned, but in inverted order, and preceded by exposure of the skins to moderate heat for twenty-four to thirty hours, the drying to be effected not too rapidly, but so as to insure uniform contraction of fiber.

(3) Sponging with alum or water, or, by way of alternative, heaping them in a damp place and then passing through water.

(4) After elaborate smoothing and finishing on the so-called "stollen," to insure perfect softness of the pelt, passing between rollers. To render this more effective, thin metal foils intervene between the piece inserted and the rollers, the pressure of the latter being increased or decreased by means of a screw.

The finishing being accomplished, the dyestuffs are applied in a liquid state on one side only by means of a brush. Anilines are said to be used to a less extent than formerly, perhaps for the reason that there are no factories in Austria for their production, but partly, as has been affirmed, through their not bleaching in the sun. The virtue of the water used in dressing, together with elaborateness in the dressing itself, is universally acknowledged; and soft water containing few mineral substances is considered a great benefit.

Dyeing and repeated drying being completed, the leather is placed in wooden vats, soaked in water, and the last finish imparted by drawing it over spheroid blocks, called "softening moons" (*Schlichtmonde*). At this stage of the manufacture, black gloves are now frequently softened with "luster," a black fat composition which makes them soft and bright, while for the purpose of dyeing in bright colors and shades "lustrine" is of great and growing importance.

MANUFACTURE.

The different parts of the glove, including "quirks," "fourchettes," and thumb pieces, are cut out by means of machines having steel punches, and they are then sewn either by hand (which is the rule) or by sewing machines. The contrivance for holding the pieces firm while sewing and securing neatness and uniformity of stitch is very likely the same here as elsewhere, but, as manual labor in the rural districts of Austria and among the poorer

population who cultivate domestic industries is extremely cheap, machine-aided work is likely to be restricted to a minimum.

PRICES AND LABOR.

Prices of skins range between 70 and 150 florins* in Austrian currency, 90 to 125 florins being the usual limits from which the average for middling quality may be deduced. In wholesale transactions, however, three qualities are quoted, for which the figures are 150 florins for first, 100 to 110 florins for second, 80 to 90 florins for third, and 130 to 135 florins for first and second mixed. Calfskins command about 2 florins each. Of tanning materials, sulphide of sodium costs 18 to 22 florins; arsenic, 22 florins for white and 35 florins for red; lime, 2 to 6 florins; sulphuric acid in bottles and cases, 8 florins; alum, 8.50 florins—the prices being understood for 100 kilograms, packed and delivered in Vienna. For cotton yarn, which is used instead of linen thread, 6½ to 7½ florins is paid per gross of spools of 200 yards each. Tambouring silk is 22 to 26 florins; sewing silk, 28 to 35 florins per kilogram, according to quality and weight of skeins. Porcelain buttons average 14 kreutzers per gross; metal, 18 to 60 kreutzers; clasps or levers, 1 to 2 florins per gross. For the latter no patent exists in Austria, though some limitation as to their manufacture is still in force in England.

It is impossible to particularize the cost of labor for tanning, but the average wages for 1,000 skins, *i. e.*, from and inclusive of unhairing up to dyeing, are calculated at 200 florins. Piece wages are somewhat higher, and payment for weekly work is preferred.

AMERICAN ACHIEVEMENTS.

It may be pointed out that the achievements in this industry in the United States, chiefly at Gloversville, etc., are regarded by competitors here as in every way satisfactory; that the antiquity and assured standing of the trade in Austria and in other European centers will certainly for some considerable time insure to them a decided preponderance of the business, but that it is believed the United States may count upon attracting to itself an increasing share of the world's glove trade.

JULIUS GOLDSCHMIDT,
Consul-General.

VIENNA, *March 9, 1893.*

FRENCH WINE CROP OF 1892.

The end of 1892 brings to hand the official report of France's minister of finance touching upon the wine vintage, which came to a moderately favorable termination in October last. To the native grower and wine merchant, and perhaps to those whose business it is carefully to watch the market, the official résumé is of special importance.

* 1 florin (of 100 kreutzers)=38¼ cents.

The total quantity of wine barreled in the various French viticultural districts during the autumn of 1892 is estimated at 640,094,820 gallons. The crop of 1891 amounted to 663,058,000 gallons, being 22,963,180 gallons in excess of the present harvest. Everything taken into consideration, the 1892 crop is by no means a short one, for that of 1891 was the largest known since 1884.

In 1892 there were 4,404,010 acres of ground given over to the cultivation of the grape, and the average yield per acre is accordingly fixed at 145 gallons. In 1891 only 4,354,610 acres of land were planted with vines, although the average yield was 152 gallons of wine to the acre.

Several untoward meteorological causes have combined to create this by no means disastrous decrease both in the total quantity of the crop and the average yield per acre. A period of moderate warmth during the last fortnight of the month of March served materially to advance the early budding of the vine, and in April a sudden change in the temperature set almost at naught the work already performed by the sun. Frosts were reported from every point throughout the country, and in many departments serious damage was sustained. Then, again, during the month of August, just at the moment when the fruit of the vineyard was approaching maturity a succession of excessively hot days, during which the mercury registered between 107° and 113° F., dried up the grapes in immense quantities. Notwithstanding these unpropitious thermometric conditions, everything seemed to indicate a vintage of unusual promise and excellence. And such, in point of quality, it turned out to be; for the wines of 1892 are adjudged, by all those who are presumed to know, to be of exceptional strength, flavor, color, and aroma.

As a set-off to the decreased crops shown in some departments, others give returns of immense increase. In a word, where forty-eight departments have suffered a shortage, twenty-eight report larger crops than usual.

The department of the Gironde, in which the famous Medoc district is situated, shows, for example, a decrease under the 1891 vintage of 13,294,040 gallons, that of Loire-Inférieure of 12,787,810 gallons, and Maine-et-Loire of 12,457,660. In contrast to this the department of Hérault has an increase of 40,784,530 gallons; Aude, 12,897,860 gallons; and Pyrénées-Orientales, 8,583,900 gallons.

The approximate value of the crop of 1892 is put at $176,016,000.

The following comparative tables will give an idea of the total yield of France, the total yield of wine in the Gironde, and the extent of land planted with vines, together with the average yield per acre of certain departments lying in the immediate vicinity of Bordeaux. It will be seen that the year 1892 is one of ordinary yield.

Total yield of France during the last ten years.

Year.	Yield.	Year.	Yield.
	Gallons.		*Gallons.*
1883	792,998,290	1888	662,548,344
1884	735,529,810	1889	511,150,819
1885	628,080,683	1890	603,426,160
1886	551,644,223	1891	663,058,000
1887	535,575,581	1892	640,094,820

Total yield of the Gironde during the last ten years.

Year.	Yield.	Year.	Yield.
	Gallons.		*Gallons.*
1883	41,104,973	1888	58,690,435
1884	29,453,427	1889	47,288,837
1885	23,683,992	1890	35,082,641
1886	24,401,156	1891	53,859,058
1887	25,077,467	1892	40,582,148

Total yield, extent of land planted with vineyards, and average yield per acre in various southern red-wine growing departments of France.

Districts.	Total yield.			Extent of vineyards.		
	1890.	1891.	1892.	1890.	1891.	1892.
	Gallons.	*Gallons.*	*Gallons.*	*Acres.*	*Acres.*	*Acres.*
Gironde	35,082,641	53,859,058	40,582,148	339,084	346,447	331,827
Lot-et-Garonne	5,080,590	7,088,686	5,983,418	140,182	146,895	146,895
Basses-Pyrénées	3,185,287	4,460,742	3,370,193	48,231	48,920	49,120
Hautes-Pyrénées	2,018,087	3,009,358	1,575,035	40,216	38,956	39,475
Landes	6,048,360	8,176,300	5,410,058	45,233	46,329	46,513

Districts.	Average yield per acre.		
	1890.	1891.	1892.
	Gallons.	*Gallons.*	*Gallons.*
Gironde	103.46	155.46	122.2
Lot-et-Garonne	36.24	48.25	40.73
Basses-Pyrénées	66.04	91.18	68.61
Hautes-Pyrénées	50.18	77.5	39.89
Landes	111.6	176.26	116.31

HORACE G. KNOWLES,
Consul.

BORDEAUX, *February 20, 1893.*

AMERICAN TRADE IN HAITI.

The Department requests "a detailed report setting forth in what respect the manufacturers of the United States fail to comply with the demands of consumers" in Haiti, and "in what respect the manufacturers in Europe excel them in complying with the wants, tastes, and peculiarities of the people in preparing and decorating their merchandise and in packing it for transportation." The instruction requires that each class of goods shall be treated separately, with a statement as to what is necessary to meet popular demands, the reasons for the demand, and the relative costs of production and transportation from European and American manufacturers.

I regret that after most careful attempts to study local conditions and after interviews with reliable merchants I find that the results of my inquiry must fall short of the Department's requirements. I found early in my investigations that each class of goods required special information and experience, and that the opinions of the specialists themselves differed as to the reasons for local demands and preferences. I have therefore been compelled to refrain from venturing into some of the details required by the instruction. Some statements of a general character, however, which may be useful to manufacturers in the United States, are submitted.

J. B. Vital, esq., United States consular agent at Jacmel, a merchant of experience and high standing, writes me in reply to my request for information:

> To my knowledge, American goods are appreciated here. The chief reason I can give why they are not imported in larger quantities is the very limited and short credits merchants in the United States give to their clients abroad, while in Europe credits of four, six, and nine months are generally granted.

It is not unusual for European shippers to give from two to six months' credit and to accept sixty and ninety day drafts in payment at the expiration of the credit interval. American manufacturers meet this by selling through commission houses in New York, the commission men paying cash and granting the credits.

It must be remembered that the Haitian coffee (60,000,000 to 100,000,000 pounds annually), which pays for imports into this country, goes almost exclusively to Europe. Merchants here, in order to pay for imported goods, whether American or European, draw against their coffee shipments by drafts on Paris or Hamburg. The development of the European trade and the European system of credits has been, therefore, a natural growth. It should be fully considered in the formation of any scheme for extending American commerce in Haiti.

The development of popular taste has been naturally along the same lines. To meet these natural growths, it must be borne in mind that a class like the Haitian consumers, generally illiterate and insular, are conservative to the

last degree. As a rule they want what they are used to buying; and the success of those houses in the United States which have competed in this market has been due in great measure to their carefully studying local conditions.

Mr. Charles Weymann, an American merchant of experience and importance at this capital, to whom this office is indebted for valuable information of a commercial character, says:

> I would suggest to our manufacturers that to conquer this trade over European competition it will be necessary to send to the principal ports of Haiti special agents to study the needs and wants of the people, to offer their goods of various kinds, to state and compare prices and makes of similar foreign goods. Orders should be executed through commission merchants in order to compete with the European credit system.

A constant advantage to the American manufacturer is the difference of about 50 per cent in freight charges, the European average being about 25 cents per cubic foot and the American (per steamer from New York) about 12½ cents.

In cotton goods prices have been steadily increasing in recent years. Cotton domestic, blue checks, denims, and prints promise to drive out the corresponding English articles. In percale prints, 30 inches, we have not succeeded in competing with the French (Mulhouse) percales, because the latter are believed to be superior in pattern and finish. Garner batistes, 30 inches, however, are generally regarded as equal to any produce in England or France. The local demand comprises several conditions, the most important of which are price, dimension, pattern, and packing. The prices of goods of constant weights vary with the price of cotton. In some parts of Haiti the consumers can not understand these fluctuations—why, for instance, a yard of the same cotton cloth should cost more this year than last. The obliging European manufacturer overcomes this difficulty. At the order of a merchant he will produce for the same price an article of the same pattern and width as that made when cotton was cheaper. He is careful, however, to introduce into the fabric inferior Egyptian and Indian raw material to reduce the weight. Though one would not desire to appear even to suggest competition in practices of this character, still this deception must be reported as a commercial fact. I am reliably informed that it is practised to a great extent. The Haitian customs laws make it more profitable for an importer to buy at certain widths. The European manufacturers make any widths required. I am informed that American manufacturers are reluctant to depart from the dimensions usual in their home markets. The Haitian retailers prefer short pieces, and the European manufacturer cuts his cloth for the market. The American manufacturers, I am informed, prefer not to depart from their rule of making 40 and 50 yards to the piece, and importers here are often compelled to have these cut, before shipping from New York, into 10 and 20 ell pieces for the Haitian retailers. Those European manufacturers who sell through commission men give them long credits, while New York commission men must buy for cash or on short terms.

Thread and worsted, spool and machine thread, twine, cordage, etc., are principally from England and Germany. Prices are slightly lower in Europe, but the difference is scarcely appreciable, in view of the cheaper freights and greater convenience in buying from New York. It seems that a proper effort to open this branch of trade has not been made by American houses.

Carriages, wagons, etc., come chiefly from the United States. New York and New Haven are the principal competitors.

Drugs, chemicals, etc., come principally from the United States.

Food and food products come almost entirely from the United States through New York and Boston. The exceptions are European specialties in canned and preserved goods.

Furniture and articles of housekeeping come almost entirely from the United States.

Hardware, cutlery, etc., come from the United States and Germany. The American trade is rapidly supplanting that of Germany. This fact is due to the thorough manner in which the market has been studied by our representatives of hardware houses; for, though the American goods are regarded as superior, they are dearer. The market has been well gone over, and we are doing well in competition.

The linen from the north of Ireland and the hemp and jute of England and Scotland are preferred, as being cheaper and more suitable to the market than the corresponding American products.

Attempts to introduce American shoes have not succeeded. France may be said to control the market. Expert opinions differ as to the cause. Some say that the French produce a better shoe than the Americans for less money; others say that the Americans have not studied the market.

Saddles and harness are principally English. They are much preferred over the American articles, and they are declared to be both better and cheaper.

Rubber goods are not generally used, and the excessive heat is unfavorable to the development of a market. The few rubber shoes and mackintoshes used come from New York.

Liquors of all kinds, except beer and native rum, come from France. Hamburg attempted to build up a trade in inferior imitations, but was not successful. Beer comes from France, England, the United States, and Germany. It is generally of an inferior quality. There seems to be an opportunity for American producers to build up a large trade in a good article, well preserved to resist the influences of this climate without resort to too heavy fortification by alcohol.

Sugar machinery is used comparatively little in this country. Liverpool produces cheaper small mills, but those from the United States are often chosen for the convenience in shipment and delivery.

In saws, bolts, files, etc., the American goods are rapidly supplanting all others.

Musical instruments generally come from France. In later years Vienna has competed. Paris pianos appears to be the most popular. An upright of this make, I am informed, costs in Paris 1,800 francs ($347.40), less 30 per cent discount; and a grand, 3,000 francs ($579), less the same discount. They are regarded here as good instruments.

Paints and painters' utensils and supplies come from the United States.

Illuminating oils come from the United States. They comprise a large and growing trade.

No window glass is sold. Table glass of the better grades come from France; it is said to be cheaper. Lamp glass comes chiefly from the United States.

Stationery, writing, bill, and note papers are said to be dearer in the United States, but are generally preferred. Cheap papers come from Paris.

Watches and clocks formerly came from Paris. During the past five years, however, the sale of American articles has been steadily increasing. The cheap nickel makes were the pioneers; now the fine grades of American clocks and watches are in demand.

Silver-plated ware comes from the United States. Solid silver ware comes from Paris.

Wearing apparel of all kinds comes from Paris, with slight competition from Germany.

Though lamps are not mentioned in the Department circular, it ought to be said that the demand for lamps offers a thriving trade to American manufacturers. In the cheap grades we now sell a considerable number, but the more valuable grades are said to be cheaper and more artistic in Paris. My personal observation is that the burners made in the United States are superior; and, if American invention has solved the problem of giving a more steady and brilliant light with the same expenditure of oil, the matters of price and decorative design ought not to present serious difficulties. The decorative work now done in the United States ought, it seems to me, to become popular if properly introduced into Haiti. This branch of trade is important, because this country is estimated to have 800,000 inhabitants, and the streets and houses are lighted exclusively by lamps and candles.

JOHN S. DURHAM,
Consul-General.

PORT-AU-PRINCE.

HUDDERSFIELD MANUFACTURES.

WORSTEDS AND WOOLENS.

The worsted coating trade, which about seven years ago was a very prosperous industry in this district, has been very materially affected and to some extent diverted from Huddersfield and the villages around by two or three causes. One of the main reasons for the depression in this trade was

the arbitrary action of the weavers' local trades union, which culminated in a strike. Since that strike, which ended disastrously to the work people and somewhat so to the masters, a large amount of the weaving trade has left Huddersfield. There are several mills closed in consequence.

Weaving machines have reached such a degree of perfection that it requires very little continuous personal attention to work them. One weaver can easily manage two looms, and even more in some kinds of weaving; and weavers at the present time in Halifax, Bradford, Morley, Ossett, and other towns within a distance of 10 miles from Huddersfield do this. In Huddersfield the trades union stepped in and forbade the weavers to attend to more than one loom. The consequence is that weaving costs so much in comparison with similar work in other competing towns that it pays the masters to send their weft and warps away from Huddersfield to be woven and returned here to be dyed and finished. The extra cost of the carriage, etc., to and fro diminishes the profits of the manufacturers. To show the difference between the prices paid for weaving, I give the following example: To weave a 60-yard piece here, the manufacturers have to pay the weavers 10*s*., while for a similar piece of material the masters in Halifax and the other towns mentioned above only pay 6*s*. for an 80-yard piece.

In Newcastle, Durham, and the northern towns of England the mechanics and skilled workmen in the shipyards and iron works can earn as much as 35*s*. or 40*s*. per week ordinarily; and this is considered good wages for a workman in these times; but there is scarcely any employment for the women and girls there. If a man dies his female folk are left without means of livelihood, and as a result they migrate to the woolen districts of Yorkshire and the cotton districts of Lancashire. This continued influx causes labor to become cheaper. The men in those northern towns, even though earning by themselves large wages, often bring their families down here, although they know they will not earn above half the amount of wages; still, they are gainers in the aggregate, as wages earned by their families, who easily obtain employment in the unskilled labor of weaving, make up for the falling off. Thus it is that the weaving can be done cheaper in Halifax, Bradford, Morley, Ossett, etc. The migration does not take place to Huddersfield, where the single-loom system is in operation.

Many masters, such as Martins, now recognized as the most extensive manufacturers of fine worsteds in England, are sending their looms away to Halifax, and some are transplanting their machines and work people bodily to Germany and other countries. The fine stuff goods, as merinos, alpacas, and what are called dress goods, are principally made in Bradford.

Almost the only woolens and worsteds manufactured in this district for export to Central America and the northern districts of South America are a thin, finely spun mixture of woolens and cottons or worsteds and cottons and woolens. The manufacturers here generally ship these goods through merchant houses in Huddersfield, Bradford, and London. The great object of the manufacturers is to make the woolen and cotton cloth and woolen and worsted cloths sufficiently thin for the hot climate of South America.

The cotton is almost exclusively Peruvian from choice. I understand this cotton requires very little, if any, cleaning, which most of the other sorts do. It is also stronger and easier to work, as it spreads better with wool in its manufacture. The cotton and wool are dyed separately in the raw state. The wool is scoured and dyed in short lengths.

In the process of scouring a long narrow trough, partially filled with warm water and some strong alkaline is used. At one end of it there is a feeding apparatus, which carries the fleece into the trough. In the interior are four sets of hooks, which move backwards and forwards, dragging the tufts of wool forcibly through the water. When cleansed it passes out at the other end of the trough, is carried onto a pair of rollers, between which it is thoroughly squeezed, and then sent forward to the drying machine, where it is subjected to a hot-air blast till free from moisture. It is then sent forward to the willowing machine, which is described later on.

The cotton is put through the willowing machine, which opens the fibers and mixes it and also cleanses it from any foreign material or impurities. It is then mixed in the proportions of from 5 to 30 per cent of cotton, according to the price of material to be manufactured. The following is the first process of mixing: A layer of cotton is placed upon the floor, on top of that a layer of wool; the wool is then oiled, and if mungo, noils, etc., are used, as they usually are, a layer of that material is placed on top of the wool; these are then shaken backwards and forwards with sticks into a heap on one side and subsequently run through the teasing maching. This is composed of a boxed-up iron cylinder, upon the surface of which are placed, at even distances of about 3 inches apart, rows of steel teeth. Rows of teeth are also fixed on bars on the inner part of the boxing, which are stationary and fit between the teeth of the cylinder machine. The cylinder revolves at a terrific rate, tearing the material apart—teasing it, as it is called—but great care is taken not to injure the fiber of the wool.

The material is then taken to the scribbling machine, which consists of a main cylinder, over which is thrown a belt of leather, India rubber, or other suitable material closely studded with fine steel spikes slightly bent at the points. Round it, revolving in various directions, are a number of smaller cylinders similarly wired. The machine is fed by an endless apron, upon which the material is spread out in a layer as it passes between the innumerable teeth and gets separated into filaments, which are tossed about and mixed in inexplicable confusion. By this process the material is rendered lighter, evener, and more homogeneous. It comes from the machine in one wide, thick, broad sheet or sliver, and is passed on to the condenser or carding machine. This delivers the material in from forty to fifty thin strands or threads, slightly twisted, about one-eighth of an inch in diameter, which are wound onto the rollers. These thin ribbons or threads are then taken to the mule spinner. In some cases the material is put through two scribbling machines and a condenser.

The mule or spinning machine is almost identical with the spinning jenny used in cotton factories.

In spinning the strand is attenuated to the required fineness and is given the twist by which the thread or the cord is completely formed. Some of the machines operate on from two hundred to four hundred threads at a time, or, in other words, are capable of doing much more efficiently and evenly what it would have taken two thousand and more hand spinners to have accomplished in days gone by.

The spun yarn is then directly drawn off the mule and warped in required lengths. The size used for warping is a glutinous substance produced from rabbit skins, etc., and besides giving the yarn a smooth surface, which facilitates its being woven, it strengthens it sufficiently to admit of its being dealt with in the loom without breaking. The next process is beaming.

In the beaming process the yarn is wound onto a large beam in the shape of a cotton-thread bobbin, but much larger—about 12 feet long and 9 to 10 inches in diameter—and the beam is then geared up into the loom and the piece is woven directly off the beam.

All the weaving is now done on power looms, which only differ from those used in other branches of textile fabrications in their width of beam. When the woolen cloth leaves the loom it is very different in appearance to the roll seen in the tailor's shop. It looks more like a blanket than anything else, and when held up between the eye and the light it is found to be full of interstices. Great care has to be taken in the weaving to get an even cast of weft and exactly the same number of picks to each inch of cloth.

The woven piece, when taken to the finishing room, is scoured and dried and afterwards burled and knotted. Burling is the picking out of any foreign substances from the fabric. Knotting is the removing of knots, etc., which may have been made in the weaving or warping. After knotting it is mended if needed. Threads which are left out in the weaving are put in by hand with a needle before it is taken to be fulled and milled. The fabric is then taken to the finishing room, where it is steamed, cut, or cropped, the superfluous fibers shaved off, so to speak, and then pressed. It is then ready for the market.

The processes of manufacture are almost the same in both woolen and worsted fabrics; the difference is simply in the length of the wool used. Worsteds are made of long wool and combed, and woolen yarn is made of short wool and carded. In worsted fabrics it is highly important that the yarn should be level, smooth, and free from lumps of any kind. To attain this, all of the fibers of the wool must lie in the same direction in the yarn and parallel to each other. This is the general characteristic of the worsted thread. The beauty of worsted is to have as few loose fibers as possible and at the same time to have a round, level thread, because the thread is seen in the worsted fabric. In woolen cloth the threads are not seen, as the material is fulled or milled or felted together after weaving, while those of worsted are not; this is one of the essential differences between woolen and worsted.

The object of milling or fulling is to make the cloth into one compact piece after weaving. If the wool of which the yarn is to be made is very

short, it has a somewhat bare look and is comparatively weak; and for this purpose the cloth is put into the water and pounded with large hammers of wood called stocks, or it is passed through rollers under a heavy weight. By these means the fibers of the wool shrink and are felted closer to each other. They become matted and locked fast in each other, the original form of the cloth is lost, and the separate threads can be no longer seen.

The maximum weight for the markets of Central aud South America is 24 ounces per yard of 37 inches by 56 inches and the minimum weight 12 ounces for the same measurement.

COTTONS.

Cotton yarns and sewing cottons are the principal products of the cotton industry in this district. Very little, if any, weaving into calicoes is done. Almost the whole of calico weaving and printing is now done in Lancashire. One mill, called the "Brick Factory," where spinning and weaving used to be done, has just been razed to the ground for town improvements, and I believe it was the only mill in this town where cotton-weaving for calico was done. One calico-printing mill which formerly did a large trade has been closed and the machinery sold.

Sewing cottons are made very extensively at Meltham Mills, a suburban village of Huddersfield. Brooks & Co., the owners of the mills, are large exporters to the United States and to Central America.

The main processes for sewing cotton are identical with those of spinning into yarns for calicoes, etc., which I shall presently explain in detail. The raw material for spinning is obtained from the United States, Brazil, Egypt, India, and Central America; but the United States are by far the largest contributors, sending more than six times as much as all the others put together.

The fibers in the upland cotton grown in Louisiana, Georgia, and South Carolina are about one two-thousandth part of an inch in diameter. The spinning capacity of some of this cotton is very remarkable. A continuous thread of 1,026 miles in length has been drawn from a pound weight of cotton. It is fine, soft, and white, and admirably adapted for making velvets, calicoes, fustians, etc.

In length the fibers range from half an inch to 2 inches, according to the variety to which they belong.

There are fifteen cotton warp and yarn spinning mills and twenty-three cotton spinning and doubling mills in Huddersfield.

The following are the processes of manipulation which cotton undergoes in being converted into yarn:

(1) Mixing. The blending of the different varieties of raw cotton is necessary in order to secure economical production, uniform quality and color, and an even thread in any desired degree. Even when only using one class or variety of cotton, mixing is in a measure imperative, in order to neutralize the irregularities of growth and imperfections found in all grades of cotton. It is the first operation in a cotton mill.

(2) Willowing. This is a process of opening and cleaning cotton, which, except in the Oldham district, is not so much in vogue now in the modern mills; in fact, it is almost totally discarded, and is retained chiefly for opening and cleansing low cotton waste, etc.

(3) Opening. In consequence of the heavy pressure to which cotton is subjected in packing, the fibers become strongly matted together. The opening process is to loosen them and to remove the heavier portion of foreign substances that may be intermixed.

(4) Scutching. This has a twofold object, namely, the further extraction of impurities and the formation of a lap, which is a web or sheet of cotton formed in the machine and wound upon a smaller roller. In this web the fibers lie in all directions.

(5) Carding. The foregoing operations have dealt with cotton in bulk. In carding the process of opening is continued; but the material is treated in its individual fibers, which are taken from the lap, further cleansed, and laid in a position approximately parallel to each other, forming a thin fiber, which is afterwards condensed into a sliver (a round, soft, and untwisted strand of cotton). In this process all short, broken, and immature fiber is as far as possible removed.

(6) Combing. This is used in the production of fine yarns or those of high quality. Its object is to obtain uniformity in the length of the fibers undergoing preparation. To accomplish this, all shorter than the required standard are combed away and rejected. Combing is not ordinarily used for any but the above purposes.

(7) Drawing. In this operation several slivers, the product of the carding process, are combined and attenuated to the dimensions of one of the component parts. The objects are to render the new slivers more uniform in thickness and to place the fibers more perfectly in parallel order.

(8) Slubbing. This is a process by which a further combination of slivers is effected and the objects of drawing are more perfectly accomplished. The drawing of the strand is now carried so far that it becomes necessary to twist it slightly in order to preserve its cohesion and rounded form. Intermediate or second slubbing, which is in all respects a repetition of the foregoing, is necessary in cases where the purest and cleanest yarn is required. It is not ordinarily used in the production of low numbers.

(9) Roving. This is a continuation of the preceding, its principal object being to attenuate the sliver still further. At this point, too, the latter receives additional twist, to enable it to bear the slight strain necessary to draw it from the spool or bobbin without the formation of uneven places.

(10) Spinning. This is the concluding process of the series. The sliver is here attenuated to the required fineness and is given the twist by which the thread is completely formed.

(11) Doubling. Sometimes this is a separate business to spinning, but more often is an adjunct to the preceding. It is a method of combining two or more threads to form a single cord. This is adopted in the production of many varieties of yarn, which are used for widely different purposes.

It is customary and advisable to test each purchase of cotton to find the average loss of weight upon the same classes of material or upon the varieties that compose the mixing in use. A small quantity—say 5 pounds—is taken from each bale and passed in succession through the scutching machinery and the card, beyond which the test is not carried, as the loss that occurs after these passages is small and can be easily estimated. The parcel is carefully weighed after coming out of each machine and the particulars entered into a book kept for the purpose. The 5 pounds of cotton on its passage through the opener, or willowing process, probably loses 3 ounces, reducing the weight of what remains to 4 pounds 13 ounces. Its next passage is through the scutcher, where it loses 2 ounces more, the balance being 4 pounds 11 ounces. The lap machine is the next process to which it is submitted, and in this loses 1 ounce more; balance, 4 pounds 10 ounces. Supposing there is a finishing machine after the last named, the loss in its passage through this will again be 1 ounce more, reducing the bulk to 4 pounds 9 ounces, or thus far a loss of seven ounces (8½ per cent).

The following table, from an official return, shows the exports of cotton piece goods of English manufacture to Central and South America for the month of February, 1892, compared with the corresponding month in 1891:

Description.	1891.	1892.
	Yards.	*Yards.*
Gray or unbleached	1,090,400	2,069,400
Bleached	878,400	1,564,600
Printed	767,500	865,500
Dyed or manufactured or dyed yarn	705,000	612,400
Total	3,441,300	5,111,900

DYES AND DYESTUFFS.

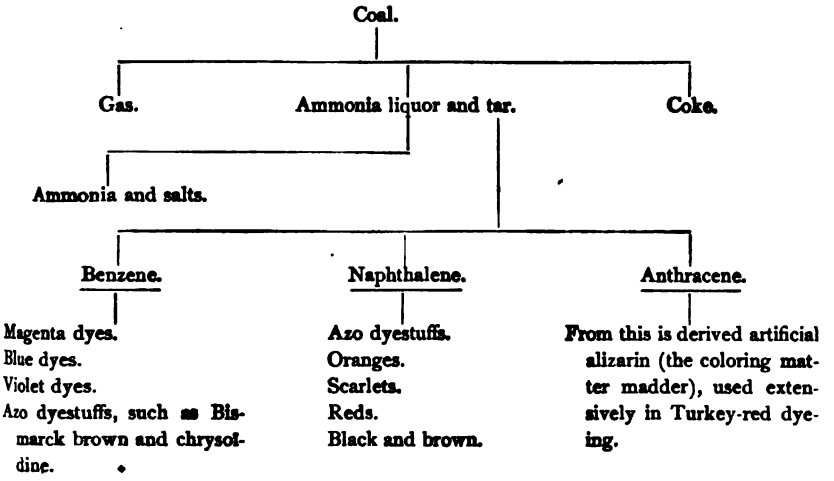
Coal tar or aniline dyes are largely manufactured in this district and are extensively used in the dyeing of calicoes, linens, woolen and worsted goods, and silk. There are also several mills engaged in the manufacture of logwood, which is largely used in dyeing. The manufacture consists simply of crushing or grinding up into small particles the logwood, which is imported principally from Spain and Portugal.

Until the middle of this century the whole of the dyestuffs used in the manufacture of cloths, etc., were obtained from the animal and vegetable world. The manufacture of colors from tar is intimately connected with the introduction of coal gas for lighting purposes in the first half of this century, although so long a period as forty-two years intervened between the introduction of coal gas for illuminating purposes and the manufacture of the first aniline dye—mauveine. During that long period the constituents of coal tar were scientifically investigated, and thus a basis was formed on which the subsequent development of the coal-tar color industry rested.

Great difficulties were encountered in the study of coal tar, for sixty years ago chemistry was in its infancy, and only with the gradual development of

this science to its present position has the knowledge of the constituents of coal tar been acquired. Although our knowledge of the chemistry of coal tar is by no means complete, we know that it consists of a mixture of a large number of compounds, about fifty of which have been obtained in the pure state; but it is nevertheless supposed to contain other compounds which hitherto have not been isolated.

The following chemical pedigree will explain in some measure the various constituents of coal:



The products of the dry distillation of coal, which is conducted on a large scale for the manufacture of coal gas, may be conveniently divided into four classes—coal gas, ammonia liquor, coal tar, and coke. Coal tar is the only one of them which is of importance in the manufacture of artificial coloring matters. It consists of a large number of different substances, which, according to their chemical reactions, can be divided into three groups.

The first of these comprises the hydrocarbons, which, as their name implies, consist of carbon and hydrogen. They are indifferent substances, possessing neither acid nor basic properties, and are therefore insoluble in dilute acids and alkalies. They constitute the principal part, and at the same time the most valuable part, of coal tar. Benzene, toluene, xylene, naphthalene, and anthracene are the most important of these hydrocarbons.

The number of substances contained in the second group is limited, but they exceed those of the first group in quantity. They consist of phenols—bodies which are composed of carbon, hydrogen, and oxygen. The phenols are weak acids, and therefore dissolve in caustic alkalies, whereas in dilute acids they are insoluble. The most important phenols contained in coal tar are carbonic acid and cresol.

The third group comprises a large number of bases, but none of these are contained in sufficiently large quantity to admit of their technical preparation from this source. The bases are composed of carbon, hydrogen, and

nitrogen. They are soluble in acids, but insoluble in alkalies. As characteristic numbers of this group may be mentioned aniline, toluidine, etc.

Almost all those products which are contained in coal tar in larger quantities have been carefully utilized in the manufacture of coloring matters. The most important of these are benzene, toluene, xylene, napthalene, anthracene, and phenol.

The coloring matters are generally added to the dye bath in a state of solution, but sometimes in the form of a paste. As solvents only those liquids which are miscible with water are used for dyeing purposes; petroleum, benzene, etc., are therefore excluded. The most usual solvents are water, alcohol, methylated spirits, and acetic acids.

The solutions are usually prepared hot and are then either filtered or decanted, in order to retain insoluble impurities or particles of the dye which may not have been dissolved. In making large quantities of such solutions for use methylated spirit, as concentrated as possible and free from impurities or acetic acid, is added.

In dyeing with coal-tar colors the fiber of the material has to be taken into consideration, as the relation of the coloring matters to the fiber not only depends upon the physical structure of the latter, but also to a great extent upon their chemical composition.

Silk is very seldom dyed. As raw silk, in the majority of cases, it is first discharged, that is, boiled in strong soap solutions or otherwise deprived to a greater or less extent of its external covering—the silk glue or gums. By this means it becomes more glossy and a better feel is imparted to it. It is then sewed up in linen bags and boiled in a fresh soap bath. This second bath can be again used for ungumming a fresh portion of silk, and lastly is added in the form of boiled-off liquor to the dye bath in silk-dyeing.

Wool is not dyed in the raw state as it comes from the sheep's back, but is first washed and scoured, by which means the grease, alkali salts of certain organic acids, earthy impurities, etc., are removed, thus leaving behind the almost pure wool. Sulphuric acid is used almost exclusively in the bleaching of wool. It would be completely dissolved if hot solutions of caustic alkalies were used. Concentrated mineral acids, as well as chlorine, deeply attack the fibers.

After bleaching it is stoved, and then rinsed in a weak solution of soda and thoroughly washed with water. It is then ready for the dye bath.

Clean and well-bleached cotton consists, like all other perfectly bleached vegetable fibers, of almost pure cellulose. The only portion of the cotton fiber which does not consist of cellulose is the extremely thin membrane or cuticle which envelopes it and to which it owes its tenacity in a great measure. The chemical composition of the fiber is not yet well known. If it is destroyed, the fiber falls to a powder.

For the dyer the most important chemical properties of the fibers are those which bear directly on the coloring matters themselves or in the additions to the dye bath. In dyeing it is not only necessary to see that the

colors produced on the different materials are as full and as fast as possible, but also that the fiber should not lose in strength; and in the case of wool or silk that it should not part with any of its luster or pliability.

With the exception of artificial indigo, aniline black, and one or two other coloring matters, the coal-tar colors can be divided into two classes with respect to their relation to the fibers.

(1) The coloring matter is absorbed directly from its solution by the fiber. In this case the fiber is said to be substantially dyed, and the coloring matter is called a substantive coloring matter.

(2) The fiber does not combine directly with the coloring matter and must first be discharged with metallic salts and hydrates (mordanted), or prepared in some other way, before it will receive the color.

The following are the mordants most generally used with aniline dyes on cotton:

Sumac or any other form of tannic acid is often used alone or in conjunction with either tin or tartar emetic, particularly where fastness and depth of shade is required. The goods are mordanted first with sumac in the ordinary way, according to the shade required, then squeezed out, and, when tin is used, worked in a cold solution of tin for about half an hour. When tartar emetic is used the cotton, after being worked in sumac, is immersed for a few minutes in a hot solution of tartar emetic, about 2 or 3 ounces to a gallon of water. After mordanting it is washed and rinsed, and, if necessary, a little ammonia is added to the wash water in order to neutralize any free acid; then it is entered into the dye bath.

Red liquor (acetate of alumina), as a rule, gives bright shades when used with aniline colors. The cloth or yarn is entered into a solution of 1 of red liquor to 4 of water, wrung or squeezed out, and hung up to dry. When dry it is rinsed in hot water until thoroughly wet; then it is washed in cold water and entered into the dye bath.

Turkey-red oil is now used in many cases for mordanting cotton, and with some of the aniline dyes, especially the basic ones, gives very bright shades. The thoroughly cleansed cotton is worked in a bath containing from 2 to 5 pounds of Turkey-red oil to every gallon of water, wrung out, and dried. In some cases this operation is repeated two and even three times. The cotton is subsequently passed through a red-liquor bath, wrung out, and then dyed in a separate bath.

Cotton in piece goods, whether all cotton or mixed goods, is most frequently mordanted with sumac and tin and dyed by passing through a strong solution of color in a padding machine or jigger, both mordanting and dyeing baths being cold, then wrung or squeezed out and dried.

Mixed goods of cotton and wool are most usually treated thus: The wool is dyed with an acid color in a hot, slightly acid, bath, to a shade rather lighter than that ultimately desired; the piece is then washed off and the cotton dyed by passing through cold sumac and tin baths, and finally through a cold concentrated bath of the cotton color desired; it is then wrung out and dried.

The complete fixation of the mordants is effected by passing the material after mordanting through dilute solutions of scrap soda or chalk or by washing in calcareous water.

CONCLUSION.

To obtain an idea of the magnitude of the woolen and cotton industry of Great Britain, it is only necessary to examine the statistics for the year 1891, which show that for the twelve months embraced therein no less than $390,000,000 worth of those products were exported. Under the heavy woolens are included worsteds, which represent in this district nearly 75 per cent of the total exports to the United States, and may therefore be regarded the staple product of this locality. Huddersfield, in common with a number of towns in the west and north of England, enjoys extensive commercial relations with the United States and the Central and South American republics. The latter, including Mexico, and, indeed, all those countries which are embraced in our reciprocity policy, took from England in 1891 cotton and woolen goods and various other products of manufacture worth fully $165,000,000. Newfoundland and the Dominion of Canada are not included in these statistics.

It is vitally essential, in my opinion, to bring to bear every influence on our manufacturers, as well as to place before them every item of information respecting the vast commercial interests involved in this subject, by way of encouraging them to persevere in the grand struggle for commercial supremacy in the markets of the western hemisphere. I am perfectly convinced, from what I know of the woolen and worsted trade regarding weight and texture, that there is a magnificent field for American manufacturers right at their own doors, which can be captured with the proper degree of energy and determination.

There are to be found even among the English woolen and worsted merchants men who admit that their competitors in the United States are turning out certain classes of goods which are thoroughly capable of taking care of themselves in the home markets.

In the fancy goods of this line we are at a disadvantage in the matter of design. That is a feature of the woolen and worsted trade which can be mastered only by time and experience. Here, where communities have been gathered about the mills for generations, this important branch has become a sort of hereditary talent, handed down from one generation to another, and maintained with as much secrecy as the private affairs of the owner's household—if not a great deal more so, as the interests involved are infinitely more important.

WILLIAM P. SMYTH,
Commercial Agent.

HUDDERSFIELD, *March 9, 1893.*

ST. PETERSBURG TECHNICAL SCHOOL.

The object of the St. Petersburg Technical Institute is to give its students the highest technical education.

The curriculum continues for five years and is divided into five yearly courses. Instruction is given in religion, higher mathematics, descriptive geometry, theoretic mechanics, physics, chemistry, anatomy and physiology of plants, mineralogy with geognosy, geodesy, science of construction with architecture, applied mechanics and theory of construction of machines, mechanical technology, chemical technology, metallurgy, political economy and statistics, bookkeeping, modern languages (French, German, and English), drawing. Besides these subjects, the educational course includes practical studies in physics, chemistry, mechanics, natural history, and other sciences. Such studies are pursued at the workshops and laboratories of the institute, as well as outside in factories and construction works.

The institute has a church, library, museum, room for physics, mechanical and chemical laboratories, and workshops for mechanical and chemical technology.

It is open for those with certificates showing that they have finished the course in the higher literary institutions, for those who have received certificates from gymnasiums of the ministry of public instruction or from literary and professional schools in full grade, and for those possessing certificates from other intermediate schools the course of study in which has been found by the minister of public instruction to be sufficient for entering the institute. In all cases Russian subjects have more rights than foreigners.

If the number of persons who desire to enter the institute exceeds the number of vacant seats, a competitive examination is held in mathematics, physics, and the Russian language, according to the gymnasium course, and the right to enter the institute is given to those who receive the highest grade.

The students pay for tuition 50 rubles per year in advance.

Students who are Russian subjects not possessing sufficient means to pay for tuition and excelling in studies and conduct have a right to stipends and to free tuition. For this purpose there are in the institute twenty stipends in the name of the late Emperor, five in the name of the founder of the institute (Count E. F. Kankrin), and eighty of the institute, for 360 rubles per year each. One hundred students can be admitted free of cost. Any money that may remain from these stipends is used for assisting the poorer students.

The students are obliged, in return for the stipends received, to serve on Crown service one year for each year of stipendiary assistance, provided that at the end of the course they are informed that the Government desires to profit by their technical knowledge.

Stipends can be established by private persons, as well as by societies, with the condition that no restrictions shall be imposed contrary to the reg-

ulations of the institute and general laws, and provided that they are approved by the minister of public instruction.

After having successfully completed the full course of studies in the institute, students must, before being graduated, pass examination before special examining commissions, the members of which are appointed by the minister of public instruction. These commissioners confer, as a result of the examination, for excellent knowledge the grades of technical engineer and technologist. Those who pass the examinations have the right to wear special badges.

Occasionally persons who have not attended the institute are admitted to these examinations, but only for the grade of technical engineer; they must previously present certificates of education giving them the right to enter the institute, as in the case of regular students.

Persons earning the degree of technical engineer or technologist have the right to build factories, with accessories and dwelling houses; also to assist in the construction of works lying under the supervision of the ministry of ways and communications. They can also enter the service of this ministry for the construction of works. Those of them who from birth do not possess any rank are enrolled as honorable citizens, without being made to pay taxes for such title. The minister of public instruction has the right to ask for the title of hereditary honorable citizenship for such technical engineers and technologists who can prove that they have successfully managed a factory for ten years or fulfilled the duties of technical engineer for that time. Moreover, they enjoy certain rights of exemption from military service.

The institute belongs to the jurisdiction of the ministry of public instruction and is subordinated to the curator of the St. Petersburg educational district.

Its management is confided to a director, with the assistance, in special cases, of the educational and economical committees. The director is selected from persons celebrated for their scientific and educational work. The function of director may be joined to that of professor. In such case the director receives, besides his salary, an additional fee amounting to 1,500 rubles per year. The personnel and students of the institute are subordinated to the director as their chief.

As aids to the director of the institute an aid for the educational part and a secretary for managing the affairs of the educational committee are appointed by the minister of public instruction from professors of the institute, upon the recommendation of the director, approved by the curator of the district.

The committee of the institute consists of an instructor of religion and professors. The duties of the committee are as follows: Affairs presented for approval before the minister of public instruction; plans and prospectus of theoretical and practical instruction of the institute; division of instruction and practical studies on courses, cabinets, laboratories, and

workshops, together with the apportionment of time for each subject; suggestions for orders of control over the studies of the students and over examinations of theoretic and practical instruction; judgments of qualifications of candidates for vacant professorships and adjunct professorships; examination and survey of yearly report of the educational part of the institute; suggestions for disposing of moneys appropriated for the educational part of the institute; selection of honorary members of the institute and assignment of the honorary grade of technical engineer; propositions for temporary fulfillment of vacant functions; affairs presented for approval before the curator of the district, propositions for offering stipends and free scholarships, according to the regulations of the ministry, to students, also of depriving students of such privileges; rules for using the library, collections, and other school accessories, as well as suggestions for furnishing libraries, collections, and school accessories; judgments of candidates for functions of instructors and machinists and discussions of all questions presented to the curator of the district; affairs decided by the committee itself concerning the admission of students, examinations, review of half-yearly reports on the educational part and examination of written articles proposed to be printed in the name or on account of the institute.

The instruction of physics, chemistry, mechanics, architecture, mechanical technology, chemical technology, as well as the supervision of practical work, is entrusted to professors and adjunct professors. The instruction on all other subjects is confided to teachers.

Professors and adjunct professors are selected from persons renowned in their respective specialties and possessing talent for teaching. A professor of physics and a professor of chemistry must have a scientific degree, the former that of doctor, the latter that of master. Others are not obliged to possess scientific degrees, but they must have received the highest education on the subject which they propose to teach. Instructors of the institute are selected from persons who have successfully finished the course of higher educational establishments, whereas teachers of foreign languages, tracing, and drawing are selected from persons who, if not having received the higher education, are nevertheless admitted by the ministry of public instruction for instruction in the higher and intermediate schools. The mechanics are selected only from persons who have received the higher education on subjects of their respective specialties and who possess diplomas or certificates on such specialties.

The economical committee is composed of three members appointed by the curator of the district for three years. They are chosen from persons who instruct in the institute or who manage some special part of it. This committee manages the whole property of the institute, prepares yearly estimates of expenses, disposes of all money appropriated by the committee, and draws contracts for sums not exceeding 5,000 rubles. When the expenses do not exceed 1,000 rubles per year for each person, and when contracts do not exceed 7,000 rubles, the committee must ask permission of the curator of

the district; when the expenses exceed these sums, the permission of the minister of public instruction must be obtained.

The personnel of the institute consists, besides the above-mentioned persons, of the secretary, his aid and archivist, the bookkeeper, his aid, the overseer of the buildings, the librarian, the keeper of the museum, the architect, and the physician.

The professors, adjunct professors, and inspector are appointed by the minister of public instruction. The other persons in the institute are selected by the curator of the district. The instructor of religion is appointed by the minister of public instruction, in accordance with the diocesan government. Hired clerks, workmen, the assistant surgeon, and all other lower emyloyés in the institute are hired by the director, who has the right to appoint a limited number of such employés, provided their combined salaries do not exceed the definite sums fixed by the committee.

J. M. CRAWFORD,
Consul-General.

ST. PETERSBURG, *March 13, 1893.*

TOBACCO MONOPOLY IN COLOMBIA.

I inclose herewith a translation of law 85 of 1892, establishing a monopoly in the manufacture and sale of cigars and cigarettes and imposing prohibitory duties upon the importation of tobacco in all forms.

JOHN T. ABBOTT,
Minister.

BOGOTÁ, *February 24, 1893.*

TRANSLATION OF LAW 85.

[From the Diario Oficial of December 22, 1892.]

ARTICLE 1. The right which the Republic reserves to itself to sell tobacco in whatever form for consumption within the country is hereby established as a national revenue. The Government can reserve to itself, if it shall judge best, the right to import and manufacture cigarettes.

ART. 2. The production and exportation of tobacco are free, and therefore shall not be burdened with any tax whatever. The Government will carry into effect this provision in such a manner as to render it effective and efficacious, so that everyone who may wish to produce and export tobacco may be able to do so without other impediments than those which are indispensable for the purpose of preventing the freedom herein granted from giving place to an evasion of the payment of the tax established by this law.

ART. 3. Tobacco imported shall be taxed as follows: Each kilogram of cigars or cigarettes, $8; each kilogram of tobacco prepared in any other form and for any use whatever, $6; each kilogram of cigarette tobacco, $5; each kilogram of unmanufactured tobacco, $4. The right to import tobacco shall not convey the right to sell it for consumption. If the Government shall make use of the authorization named in article 1, selling the right to import and manufacture cigarettes, the owner of such right shall be obliged to pay the tax upon cigarettes and cigarette tobacco established in this article in addition to the price of the rental.

ART. 4. The Government is authorized to let, for not exceeding ten years, at public auction the tobacco tax, or without this formality and without the necessity of legislative approval for not exceeding thirty years if it shall deem best and if the lessee shall pay annually for the privilege at least $2,500,000 in gold. The Government is also authorized to sell at public auction for not exceeding twenty-five years the monopoly of the manufacture, importation, and sale of cigarettes and cigars of foreign production.

ART. 5. If the execution of the present law shall produce the rescission of any contract or contracts made by the departmental governments, the Government shall be subrogated to the rights and obligations arising from the rescission of the respective contract or contracts.

ART. 6. The Government is authorized to grant the respective indemnities to the owner of cigar and cigarette manufactories in accordance with article 31 of the constitution, provided that they may have a right thereto.

ART. 7. The proceeds of the tobacco tax shall be exclusively employed for the redemption of the paper money and the reorganization of the National Bank in the manner determined by the law on that subject.

ART. 8. This law applies to the department of Panama, and will take effect six months after its approval, in conformity with article 204 of the constitution, except that part relating to the change in the customs tariff, named in article 3, which shall take effect in the manner determined by article 205 of the same constitution.

Done in Bogotá, December 7, 1892.

DECORATIVE ART SCHOOL IN FLORENCE.

A decorative art school, under the liberal patronage of the King of Italy, was established in Florence by royal decree on October 23, 1880. This is supported by an unlimited number of shares at 12 lire* each per year; voluntary donations; yearly tax of 10 lire per pupil; subsidies granted by the ministry of agriculture, industry, and commerce; the province, the municipality, the chamber of commerce of Florence, and other contributions. During 1891 the amount derived from shares was as follows: From the ministry of agriculture, 3,345 lire; from the province of Florence, 15,000 lire; from the city of Florence (inclusive of rental of building), 2,000 lire; from the chamber of commerce and arts, 3,100 lire; from various other corporations, 1,240 lire; from yearly tax on pupils at 10 lire each, 220 lire; and from various miscellaneous sources, 2,677 lire—amounting to a total sum of 27,582 lire.

The instruction imparted at this admirable school embraces architecture, sculpture, painting, wood-carving, artistic ironwork, and almost every species of decorative designing and art embellishment. The pupil, having fully completed the course of training and instruction and after successful examination, is granted a certificate *ad hoc* specifying his attendance and success.

The scholastic year extends from September 15 to July 15. The lessons are given every day, festivals and fête days excepted, between the hours of 8 a. m. and 12 m. from September until March and between 7 and 11 a. m. from April until July. In both terms the first three hours are compulsory and the fourth hour of instruction is optional.

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* 1 lira = 19.3 cents.

Pupils are received from the age of 12 years, and none are allowed to repeat more than one each of the four years of study. The institution is at liberty to retain any or all of the work produced by each pupil.

The professional school of industrial decorative arts in Florence proposes to give artistic and technical knowledge which is adapted more to the development of Florentine industries based upon the art of drawing and modeling. The school is therefore more especially intended to give a training to young men in these two accomplishments as may be applicable to any and all industrial and artistic decoration and designing, such as engraving, wood-carving, adorning or cutting of gold and silver ware, stucco-designing, mosaic work, and artistic designing in iron and inlaid woodwork. The course of study comprises a term of four years—two for elementary or preparatory classes, one for special or intermediate training, and the remaining year for practical and advanced work.

The following table shows the classification of industrial pupils, according to their trade, for the year ended December 31, 1892:

Description.	Number.	Description.	Number.
Boys of undecided trade	8	Goldsmiths	6
Builders	4	Workers in mosaic and other inlaid work	8
Cabinetmakers	3	Melters	2
Decorative painters	24	Workers and designers in plaster	2
Designers and formers	2	Sculptors	31
Designers for artistic industries	2	Upholsterers	3
Engravers on stone	4	Wood-carvers	21
Engravers of ivory and metals	5	Total	127
Engravers of wood	2		

JAMES VERNER LONG,
Consul.

FLORENCE, *January 31, 1893.*

PETROLEUM DEVELOPMENT IN PERU.

[The information here given concerning the oil interests in the Tumbez Valley was obtained by Mr. Daugherty from Mr. Hector Morrison, whose thorough knowledge of the matter renders his report valuable.]

The most successful wells in this valley are those at Zorritos, which is about 20 miles south of the Tumbez River. There are between thirty and forty at this point, and at least twenty of these yield oil. Mr. Piaggio has a refinery there with three stills, condensers, tin shop, barrel sheds, and all the machinery and apparatus necessary for refining the crude petroleum. Sailing vessels carry away the product, which is sold along the whole west coast, and the oil is accounted much better and commands a higher price than that from the wells at Talara. Here, as at Talara, the petroleum is without paraffin, carries benzine in great abundance, and yields but about 30 per cent of kerosene.

Six miles inland from Zorritos, at Tucial, in the valley of the same name, are two wells—one at a depth of 830 and the other at 470 feet. Both wells have produced some oil, but not in paying quantities. The company that sunk these wells is the Mancora Company, of England, and the wells are on the hacienda Mancora.

Three miles north of Zorritos are two wells owned by the Heath Petroleum Company, also an English company. One, at a depth of 750 feet, yields oil, while the other, now at a depth of only 450 feet, shows as yet none.

Eight miles north of Zorritos, at La Cruz, the Peruvian Petroleum Syndicate have put down a well to a depth of 1,038 feet without finding oil in paying quantities. The formation through which this company has bored is very loose conglomerate, small seashells being found at a depth of 900 feet. At the present depth a remarkable flow of gas was encountered, which threw pieces of conglomerate rock and fresh water to the height of 60 feet in the air. After a day and a half the gas disappeared; but water is still being thrown to a height of 25 feet, discharging from a 4-inch pipe fully 40 gallons per minute. Fresh water was encountered in the sinking of this well at ten different points.

This same company sunk another well at Pampa Grande, on the Tumbez River, 10 miles from the Bay of Tumbez, to a depth of 550 feet, finding nothing but sand and stone and fresh water. This last company and one other have ceased operations for the present.

A. J. DAUGHERTY,
Consul.

CALLAO, *March 4, 1893.*

IRON AND IRON ORE IN KOREA.

With the exception of a small annual importation, amounting in 1890 to 533½ tons and in 1891 to 659 tons, about two-thirds of which was old horseshoe iron, all the iron used in Korea for agricultural, household, and other purposes is of native production; but, although the quantity must be large, no statistics of it exist. It is not taxed, and the Government keeps no records. Iron ore is found in many parts of the peninsula in great abundance.

It is generally of good quality; but no report upon it has, so far as I am aware, ever been made public by foreign experts. Those who have traveled in the country, and there have been very few, have kept their observations to themselves, and it may be doubted whether any thorough examination has ever been made of the iron deposits. The interest of prospectors has been confined to gold, and any knowledge regarding iron has been incidentally picked up. It may be that the fact that coal has not been found in proximity to the iron deposits has discouraged investigation. Neither iron nor coal has been systematically sought for.

Mines, such as they are—shallow holes in the ground—are scattered throughout the country; but they can not go deep. The natives do not understand ventilation or lighting, and they can not deal with the water which accumulates in the mines. They do not use explosives for blasting out the ore, and, as they only do what they find easy, the mines are soon abandoned.

A good deal of the ore is magnetic, and, if it were not rich, would not pay the natives to work. Coal not being found with the iron, the ore is smelted in the old-fashioned Catalan furnace with charcoal—a most expensive process. The cheapness and abundance of the metal prove the extent and richness of the ore deposits.

Every traveler in the country alludes to them. In a native report of a journey the writer mentions having seen great numbers of iron mines, and speaks particularly of four—at Kang-hwa, Yöugp'yöug, Kim-hwa, and Höng-chhöu—"which can be worked for one hundred years." He says: "In the Kang-hwa prefecture, on the mountain Ko-eyo-sau, there is a loadstone mine of which the iron could be made into steel."

Campbell, in his "Journey to the North of Korea," says: "The only mines we saw," when on the road from Seoul to Wöusau, "were three or four men digging ironstones out of the bed of a stream near Ch'ang-to, and the only worker in metal noticeable outside the large towns is the blacksmith, whose tiny charcoal forge is rarely idle." He is seen everywhere in Korea.

Carles speaks of workings of iron said to lie in the hills a little to the east of Ch'hou-mal.

One of the largest foundries for casting the big iron kettles for boiling rice, which are used in every Korean family, may be seen on the high road about halfway between Seoul and Pyeng, the metal coming from the mountains in the neighborhood.

AUGUSTINE HEARD,
Consul-General.

SEOUL, *February, 1893.*

AGRICULTURAL PRODUCTS OF MEXICO.

RICE.

The annual output may be placed at 11,000,000 kilograms,* worth rather less than $1,500,000. Morelos is first, with Colima second, in rank.

BARLEY.

This is an important crop on the high plateaus of the interior. The acreage yield is not large as compared with barley regions in the United States. It is one of the products often raised here without irrigation, and when rains do not fall in due season the crop is wholly or partly lost. The

* 1 kilogram = 2.2046 pounds.

value for 1889 is given at $3,331,824 and the quantity at 2,131,713 hectoliters.* The same crop for 1883 is stated at 232,334,023 kilograms, valued at $4,503,770. Taking the value of the 1889 crop, the price per bushel would be about 50 cents. This price, also, is lower then the general average, taking the whole country into consideration. Recent years have given poorer crops, due to long-continued and extended droughts; so that the quantity has notably decreased, while the average price has increased.

MAIZE.

Indian corn is the staple agricultural product and principal food of the poorer people. It is grown in every State and Territory and in the Federal District. For 1889 the value is given at $47,879,830, and the quantity at 27,774,237 hectoliters, or, say, 60 cents per bushel. For 1883 the value was given at $114,166,340, showing a tremendous reduction if the statistics are to be relied upon. It is probable that the figures for 1883 were greatly exaggerated, while those for 1889 are likely to be more nearly correct. During the last three years there have been whole or partial failures of this most important crop in large sections of the country. As one bad year followed another in the same or neighboring regions the condition of the poor people grew steadily worse. The situation finally became so serious that nearly a year ago the Federal Government removed the import duty and aided in importing immense quantities in such manner as to get it to the suffering classes at cost or at a very narrow profit margin. The result was a most phenomenal increase in the demand for our corn, the imports at this one port being more than 71,000,000 kilograms within the five months ended November 30, 1892. At that time the duty was partially imposed, and after a time, thinking the year's crops would meet the home demand, the full duty was put on. Recently, however (March 15), the duty was again removed because of the unsatisfactory condition of this season's crop, and imports have been resumed.

The duty on corn meal was removed with that on corn, and small quantities have been imported. Owing to the heat, meal will not keep well; and it is ground too fine for general acceptation. Besides, most corn is reduced to a paste by soaking in weak limewater and mashing it by hand on stones for making the flat cakes called "tortillas."

When one considers how important a part corn plays in the domestic economy of all Mexican households except those of the wealthy class, it is easy to see the serious condition brought about by these continual failures. Laredo is only one of several ports into which our corn has been poured. Here alone, within the fourteen months ended February 28, 1893, over 91,000,000 kilograms have been imported—say 3,500,000 bushels—at a stated value of $3,000,000. This can not be more than one-third—I should think it less—of the total imported at Nuevo Laredo, Piedras Negras, Ciudad Juarez, Nogales, Matamoros, Veracruz, and other ports. This would give a

* 1 hectoliter = 2.838 bushels.

total of recent imports of from 11,000,000 to 12,000,000 bushels, worth about $10,000,000. In spite of the unceasing and vigilant care of the General and State governments, there have been corn riots—entirely local in character—much suffering, and even many deaths directly or indirectly caused by the scarcity of this prime food.

The methods of cultivation are by irrigation and by trusting to the natural rainfall. These vary with the time of year and locality. In many places two crops are raised or attempted each year. The acreage yield is usually not nearly as great as in the United States.

WHEAT.

The crop for 1883 was stated at 338,704,093 kilograms, valued at $17,535,890, or, say, 5 cents per kilogram or $1.25 per bushel; that for 1889 is given as 3,430,307 hectoliters—say over 10,000,000 bushels—valued at $12,657,984, or, say, $1.25 per bushel. This shows a falling off in quantity, as well as in value, but whether from faulty statistics or decreased production I am unable to form an opinion.

The great bulk of the crop, like barley, is produced on the high plateaus, and, like corn, is raised with and without irrigation. The yield per acre is generally less than in the United States, and the product, when turned into flour, is so expensive as to be beyond the reach of the poorer classes. It is a food for the rich and middle classes only, except in the localities where raised.

BEANS.

The frijole—black, brown, large, medium, and small—is, next to corn, a prime food not only with the poor, but with all classes. They produce as well or better than our white beans, are hardy, rapid growers, and are particularly adapted to most land in Texas and our Western States. I have often called attention to the value of some varieties of Mexican beans for cultivation in the United States, and have sent packages to our Department of Agriculture and to societies and individuals with a view to their introduction.

The bean in Mexico ranges as an article of food from dessert on the tables of the well to do to the daily food of the very poorest. It is grown, like corn, in every portion of the country. In this crop, too, the figures show a serious falling off in value—from $8,660,670 in 1883 to $4,069,309 in 1889. The amount for the first year is given as 210,188,526 kilograms, say over 8,400,000 bushels, and in the second year as 955,060 hectoliters, or, say, 2,865,000 bushels. It does not seem possible that there has been so great a decrease in quantity, and yet it is clear that the decrease has been considerable. The price has varied from about $1 per bushel in the first to nearly $1.50 in the last year. This crop, also, is raised by irrigation and by natural rainfall; and the decrease, which has probably been caused in large part by bad years, is a serious and widespread hardship.

Within the past year considerable imports of Chilean beans have been made via water to San Francisco and by rail into Mexico along this border.

There have been small imports of our white beans, but these have much less nutrition than the Mexican or the Chilean article, and are not well received. The duty on these was raised at the same time as that on corn. Had we produced a brown bean equal to that of this country, we could have exported large quantities at a good price.

PULSE, ETC.

The considerable production of pulse (184,902 hectoliters, valued at $365,162), pease (284,676 hectoliters, valued at $638,298), vetches (64,276 hectoliters, valued at $230,416), and lentils (9,906 hectoliters, valued at $31,183), will be noted as articles not so generally grown or known in most portions of our country. It seems to me that we could enlarge our general food supply by increasing our product of these foods in the warmer States of our country.

PEPPERS.

Only three States are given as not raising any of this very useful food, the total value of which for the year 1889 is stated as $1,646,370, the quantity being 6,906,140 kilograms. For the year 1883 the value was given as $4,200,000 and the quantity as 54,138,140 kilograms. These figures show so wide a divergence as to make it certain that serious errors occurred in one year or the other. I should give the preference to the last year, as I believe the figures were more carefully taken than for the first.

POTATOES.

This crop is a small item and seems to have slightly decreased, showing in the last year 6,623,738 kilograms, valued at $351,431, as compared with 10,557,738 kilograms, valued at $457,592, in 1883. Even this decrease may be due to greater care and conservatism in preparing the data, and not to any diminished cultivation.

It is to be regretted that the Mexicans, especially the poorer people, do not avail themselves to a greater degree of this most useful food. They can be grown here, particularly on the higher plateaus, of a very fine grade, and will produce abundantly. Indeed, some Englishmen and Americans have made money by raising large crops in various localities. For these they got such extraordinary prices that in one instance I understood the first crop paid for land and all expenses. I believe, however, the matter was allowed to drop, or at least that succeeding crops have not been so carefully planted and profitable. There is no question that there is an opening here for cheap potatoes as a food for the masses. To bring them into general use some concentrated effort will be needed, as the national taste does not seem to take to them as in the United States. Those grown are usually of poor grade, small, and often watery, although I have eaten small ones of very good flavor. The price is very high; they are sold by the pound at from 2 to 10 cents, and are used more as components of soups and made dishes than as a food by themselves.

PEANUTS.

The groundnut, or peanut, is grown in eight different States of Mexico, although the total of 7,872 hectoliters only amounted in value to $23,492.

COCOA.

This is produced mostly in Tabasco and Chiapas. For 1883 the quantity was given as 1,443,002 kilograms, valued at $1,140,050; for 1889 the quantity was 1,099,334 kilograms, valued at $810,428. There has probably been a slight reduction in the annual output, although it ought to increase instead. Large areas are suitable for this purpose, and its increase would be a substantial benefit to the country.

COFFEE.

For 1883 the domestic output is given at 7,691,808 kilograms, valued at $2,074,200, and for 1889 at 8,332,299 kilograms, valued at $3,436,039. I sincerely trust that this increase both in amount and value is correct, and am inclined to think it is. At any rate, coffee is one of the most important products Mexico can have, and its development should have the urgent attention of government—both Federal and State—and of private parties.

In 1883 Mexico exported $1,717,191, which would leave as the apparent home consumption the difference of some $350,000. In 1889 the exports were 9,243,091 kilograms, valued at $3,886,035, while the product for that year is given at 8,332,299 kilograms, valued at $3,436,039. There was thus an apparent excess of exports over production of 920,792 kilograms and $449,996. As the figures above given are from different departments, and as one set is for the calendar and the other for the fiscal year, the error is not necessarily large. Indeed, the exports may have included some of the previous year and still have left enough at home for the domestic supply.

In the fiscal year ended June 30, 1892, the exports increased to $5,514,355, almost all of which went to the United States. The home consumption has not greatly changed during recent years. Bad crops have prevented many from using as much, prices have risen somewhat, and every pound possible has been sent abroad to pay for exchange. There are enough fine lands in good location near to water supply and railways to augment the annual coffee output to two or three times the present figures. Veracruz is the chief producing State, with Oaxaca second and Chiapas third.

TOBACCO.

Every argument regarding coffee applies with equal force to tobacco.

For 1883 the product was stated at 7,504,990 kilograms, worth $2,006,130; for 1889 the amount is given at 5,673,199 kilograms, valued at $1,453,940. The exports for 1883 were $272,160; for 1887, $850,807; and for 1892, $1,746,928. There has been an impetus given this article by increased foreign demand, as well as enlarged home use. It is now possible

to send Mexican tobacco from the fields where raised to nearly all portions of the country. The exports are largely of tobacco in the leaf for manufacture into cigars. Of these, for the fiscal year ended June 30, 1892, 394,336 kilograms, valued at $714,327, were tobacco worked, which also includes cigars. Great Britain took $302,000; Germany, $60,212; the United States, $15,979; and France, $10,444. Tobacco in the leaf was exported in the same period to the amount of 1,166,274 kilograms, valued at $1,032,601. Germany took $623,889; Belgium, $334,191; Great Britain, $105,025; Holland, $64,595; and the United States, $31,867.

VANILLA.

For 1883 the crop was given at 55,118 kilograms, valued at $651,958, while in 1889 the amount was stated as 10,756 millares, valued at $407,300. It is nearly all raised in the State of Veracruz. The exports for 1883 were given as $443,851, for 1887 as $850,807, and 1892 as $969,612. The bean goes largely to the United States. The figures of the product for 1889 must be much too low, as the exports for 1887 exceeded the stated product of 1889 by over 100 per cent. In most cases the export data is more reliable, especially where there seem to be inconsistencies, than that of production. It is only fair, therefore, to assume that the product for 1889 should be nearly or quite $800,000.

SUGAR CANE AND PRODUCTS.

All that I have urged concerning coffee and tobacco applies to sugar.

In 1883 the domestic output was given at 70,090,550 kilograms, including in this crude and refined, valued at $8,755,000. In 1883 the export of refined sugar was $198,365; in 1887, $124,034; and in 1892, $21,889. The exports of crude sugar in the same years were from $30,000 to $40,000. The product for 1889 is given for refined as 41,045,469 hectoliters, valued at $6,471,232, and of crude as 62,992,438 hectoliters, valued at $4,260,633. This gives an increase of nearly $2,000,000 in value, and may be accepted as very nearly correct.

In spite of the increased production, the exports have steadily decreased. This is due to better distribution of the home crop, made possible by the railways and consequent falling off in imports from abroad.

This crop is produced in nearly every State. Morelos is far ahead in the refined, with Jalisco, Michoacan, and Veracruz in this order. In crude sugar Veracruz is first, closely followed by Michoacan.

BRANDIES.

Various sorts of brandies are made from molasses. These are mostly for home consumption and amount to a considerable item—over $4,000,000 per annum.

GRAPE PRODUCTS.

A small amount of grape brandy is produced, mostly in Coahuila and Chihuahua. The wine crop is larger—nearly $200,000—and this is also

mostly made in the same States. The El Paso grape, the Parras grape, and wines from them have had a local repute for many years. With improved methods of cultivation there are good lands in these two and in other States to greatly increase the amount, while better treatment of the juice would add much to the qualities of the native wines. The value of the grape crop not used in brandy or wine is stated at $373,479, more than half of which is from Chihuahua. In point of fact, the grape product has possibilities of large increase, and the quality of the fruit and its time of ripening are such as to make them readily salable at a fair profit all over the United States.

MAGUEY PRODUCTS.

Pulque is the common beverage of a great number of people in those districts where this first fruit, so to speak, of the maguey can be obtained. It is not the first, that is called "agua miel"—literally molasses water or honey water; but it reaches the pulque state at the first stage in its fermentation. Its taste is not unpleasant, and a liking for it is almost universal among the natives, and is also soon acquired by newcomers. Something like beer, it has the advantage of great cheapness in a land where water is often hard to obtain and expensive. The percentage of alcohol is small, and its liberal use is supposed to be particularly healthful; at any rate, its use is very general. Pulque trains are run into the principal cities, where it is retailed in hogskins or other vessels by itinerant vendors and at saloons. The fact that pulque will not stand heavy freight charges nor last longer than a few days before fermenting prevents its greater distribution or export.

After pulque ceases to be itself it becomes, by various processes of fermentation and treatment, the stronger drink called "mescal." This latter has about the same alcoholic strength as our whisky and is used to supplement the milder pulque. Hidalgo and Mexico are the chief pulque districts, while Jalisco leads in mescal, and its production is quite general in the other States.

There are various grades of mescal, some of which, like those of San Carlos and Tequila, have an extended repute in the country. I should judge that the taste for mescal is more difficult to acquire than that for pulque, and it is certainly a much stronger beverage. Formerly the price was so low as to make its adulteration unprofitable; but recently prices have gone up, and some enterprising parties have imported considerable quantities of our alcohol, with which and sundry other ingredients they have succeeded in producing a most abominable compound. This, while hard to distinguish from the genuine, is much more deleterious to the health of the drinkers and the peace of the community. Altogether, the two beverages made from the maguey amount in value to about $9,000,000 per annum.

HENNEQUEN.

This fiber, which comes almost wholly from Yucatan, is used for a large number of purposes, and its range is steadily increasing each year. The total output for 1883 was 40,080,000 kilograms, valued at $3,352,000, while for 1889 the amount was 39,216,251 kilograms, worth $5,623,640. The

exports for 1883 are given as $3,311,063, and for 1892 as $6,358,220. It is the chief, almost the sole, product of that peninsula, and has all the advantages and drawbacks of a single crop on which to base prosperity. While the foreign uses slowly increase, there is some danger that the output will equal or even exceed the demand.

IXTLE.

This fiber plant and product has also steadily increased. In 1883 the output was 2,231,890 kilograms, valued at $154,053, while 1889 gave the amount of 8,162,983 kilograms, valued at $573,442. Tamaulipas, Chihuahua, and San Luis Potosi are the chief producers. It was exported in 1883 to the value of $596,533; in 1887, $348,842; and in 1892, $617,300.

INDIGO.

Chiapas is the first in production, and the total for the whole country was only 227,395 kilograms, valued at $332,760, in 1889. In 1883 the output was stated as 192,246 kilograms, valued at $358,002. This industry is not flourishing, owing to lower prices and difficulties in gathering, preparing, etc.

COTTON.

The last article on the list is that very important staple, cotton. As I have recently in two very full reports discussed this subject in every phase so as to enable our planters, dealers, and merchants to know Mexico's present development in this industry as regards production, importations, and manufacture, I will refer all needing such to those reports when published by the Department.

WARNER P. SUTTON,
Consul-General.

NUEVO LAREDO, *March 29, 1893.*

THE CASTOR BEAN IN INDIA.

CULTIVATION.

There are two chief forms of this plant (*Racinus communis*) to be met with in India, but under each of these there are numerous modifications in color and shape of leaves and presence or absence of spinous appendages on the fruit. These two great types have received various names, which denote, on the one hand, the size of the seed, and, on the other, the color of the stems, petioles, and leaves. The one form is a tall bush or almost tree, a perennial grown as a hedge plant or to afford shade around fields in which more delicate crops are being cultivated; this yields a larger seed and an abundance of an inferior oil, which is generally expressed by a different process from that adopted with the other form. The second is an annual plant, sometimes grown as a pure crop, though more frequently in rows or lines through a field containing other crops. It produces a small seed, the better kinds of which, by an expensive or careful process, yield the superior quali-

ties of the oil of commerce and of pharmacy. The oil obtained from the first is largely used in this country for illuminating purposes, and hence is often called lamp oil; but it also finds a place as a lubricating oil, and is used in many of the industries of Europe, where the more expensive article would prove an extravagance.

The manner of cultivating the castor-bean plant appears to be the same everywhere, but, since it varies in slight particulars, a description of the methods in use in both the presidencies of Madras and Bengal should be given. In Madras it is claimed that the best ground for its cultivation is red loam, that at the foot of hills being most in request, though it certainly grows well on alluvial earths. The land is plowed in May or June thrice with the ordinary native surface-scratching plow. A large flock of sheep is, if procurable, picketed on the field for a few nights; but if these can not be obtained, twenty-four cart loads of manure, equivalent to about 8 tons, are applied to each acre. After the manuring the ground is again plowed twice. In July or August, after the first showers have fallen, sowing takes place. One plowman forms a furrow, and the man sowing follows and drops a seed into this at intervals of about a foot. A second plow follows the sower covering the seed. From 16 to 24 pounds of seed are said to be required for an acre of land, though some claim that 12 or 14 pounds are sufficient.

In some cases where the large variety is grown holes are dibbled with a heavy pointed stick some 1 or 1½ yards apart, into which two seeds are put, a little water poured, and the hole then filled up. In other instances a plow is driven along the field which has previously been well turned up. Behind this follows another plow, to the pole of which a hollow bamboo tube, with a perforated cocoanut shell fixed to the top of it, is attached. A man walking alongside of this drops at every yard two seeds into the shell, which fall through the tube to the bottom of the furrow cut by the first plow and are then covered by the sowing plow.

The castor-bean crop is very seldom irrigated, but depends entirely upon what rain may fall. The seeds germinate in about a week, and a month after this the land is plowed twice or thrice to clear it of weeds and to thin it where it is too thick. At this stage the plant is not infrequently subject to the attacks of caterpillars, which are met by sprinkling with ashes and removing the insects by hand. In the fourth or fifth month after sowing the flowering occurs, and in the sixth the capsules are formed. The picking begins in the seventh month and terminates with the ninth, when the cattle eat off what leaves remain and the stems are cut for fuel. The seed pods are gathered by hand and are stacked in a corner of a house and covered with straw, a weight being placed on the heap to exclude the air. After a period of six days the capsules become soft and the envelopes rotten. They are then exposed to the sun for two days, and when thus dried are beaten with a heavy wooden mallet about 2 feet long and 1½ feet broad, which releases about half the seed. The remaining capsules are again dried, and the

beating process is repeated, until the husking of the rest of the seed is completed.

The small species in this district is usually grown with other plants, being sown by driving a plow at pretty wide intervals over the field directly after the other crops have been put down. The seeds are sown about a yard apart. The outturn of this plant is less than that of the large description, though its value is said to be 50 per cent higher. The oil of the small kind only is, as a rule, used for medicinal purposes.

In most parts of India the varieties of the castor bean are described as two—the large and the small. Now and then five kinds are mentioned, but in the presidency of Bengal there seem to be three kinds that receive attention—the "Chunaki" (small in size), the "Gohuma" (middle sized), and the "Jagia" (large sized).

The method of sowing Chunaki castor seed is very simple, as no preparation of the land is necessary. Holes are made in the ground about 2 inches deep and 3 inches in diameter, one seed being put in each hole and the holes being 3 or 4 feet apart. The seeds germinate and the young plants appear after a week. The crop does not require any further care. Small plots of land attached to the houses of the cultivators are used. The stems of the plants serve as supports for creeping vines. The poor classes of the people use the stems, which range from 10 to 12 feet in height, for thatching, and the leaves and oil are medicinally employed. The oil is used as a remedy for rheumatic pains, the rubbing of it on the affected part of the patient and the application of the leaves giving immediate relief. The Chunaki plants are allowed to stand for two or three years, the old stocks producing fruits earlier, but their seeds being inferior to those of the new. The fruit begins to ripen in November and December and continues till March. When ripe it bursts, throwing the seeds to some distance. The bunches of fruit are plucked and placed in small trenches or tubes along with water or liquid dung. They are allowed to rot for two or three days, after which they are taken out and put in the sun. When dry they are crushed by hand or flat wooden mallets and the seeds cleaned by winnowing. The seeds are bright black dotted with gray and have a hard shell.

The Gohuma variety of the castor bean is regarded as the best. It is extensively cultivated, and somewhat resembles wheat in color. It thrives best in loamy soil. The fields are well prepared, and the seeds are sown at the distance of 1 or 2 spans in furrows. The plants are watered once or twice when the soil becomes hard and when there is a means of irrigation, but the outturn of the fields which have natural moisture is greater than that obtained from irrigated land. The banks of streams and rivers afford a crop superior in every way to the produce of other lands. The stem of the plant does not exceed 6 feet, and is about an inch in diameter. Gohuma is sown in November; its fruit begins to ripen in March and continues till April. It is harvested in the same manner as Chunaki.

Jagia is sown generally along with Indian corn in June or July before the rains set in. The ground is plowed two or three times and the seeds

dropped by a man or woman one by one 3 feet apart in the furrows made by a plow. When the sowing is finished, the fields are made even by the application of a flat timber. By this process all seeds are covered with earth, and the soil of the field retains moisture. The crop does not require any care until the fruit begins to ripen in February or March, when it is collected and the seeds prepared by the same process as is followed in the case of Chunaki. The seeds of the Jagia are of red color and a little flat.

The cost of cultivation, average outturn, and net profit vary greatly, doubtless owing to the care taken in plowing, manuring, watering, etc. The profit is also affected by the quality of the crop. As an illustration of this, the average products per acre of four districts in Bengal are herewith given:

District.	Cost of cultivation and collection.	Outturn.	Net profit.
		Pounds.	
Moonghyr	$5.40	2,460	$12.00
Bhagulpur	1.18	697	7.50
Purneah	1.70	984	4.80
Maldah	6.00	2,460	8.10

In Shahabad district the outturn per acre of the seed, when grown with other crops, is estimated at from 400 to 500 pounds. In Dacea, where the seed is sown in rows a little elevated from the general level of the field and a yard apart, each plant is said to yield from 20 to 25 pounds. In Kolhapur the average product per acre is 530 pounds, and in the Punjab there are said to be many acres each of which produces from 2,000 to 3,000 pounds of seed. A gentleman of wide experience says that from 500 to 700 pounds per acre would be a good average crop for India.

Statistics are not to be had showing the area annually occupied by the castor plant, but careful estimates would lead one to conclude that not less than 500,000 acres are devoted to its cultivation. The Indian consumption of the oil is very great, but of this there is no record.

EXTRACTING THE OIL.

In the Madras Presidency there are three processes by which the oil is extracted:

(1) The seed is roasted in a pot, pounded in a mortar, and placed in four times its volume of water, which is kept boiling. The mixture is then frequently stirred with a wooden spoon. After a time the pot is removed from the fire and the oil skimmed off. The residue is then allowed to cool, and next day is again boiled and skimmed. The oil thus procured is superior to that first obtained, and is kept separate.

(2) The seed is first boiled, and then dried in the sun for two or three days. It is then pounded, and the further process is as in the first method.

(3) The seed is soaked for a night in water and next morning ground in the ordinary native oil mill. The oil is removed by putting the pulp into a

piece of cloth and then squeezing the oil into a pot. This oil is used for lamps and dyeing purposes.

Experiments were made at the Government farm at Saidapet for the purpose of ascertaining the relative merits of the various methods of expressing castor oil. The quantity of beans operated upon in each case was 100 pounds. In experiment No. 1 the oil was cold drawn, the seed being crushed in a screw press with horizontal rollers and the resulting pulp put in gunnies and pressed. In experiment No. 2, which was divided into A and B, extraction was effected by the ordinary native process of roasting and pounding the seed and boiling the result in water, the oil being skimmed off as it rose. The difference in results between A and B was chiefly caused by the overroasting of the beans in the former. In experiment No. 3 the ordinary native mill was employed, and the oil, after the pulp had been well pressed, was boiled. The oil obtained in No. 1 experiment is stated to have been very pure, but in the others it was dirty. The following statement exhibits the outturn in each experiment:

Description.	No. 1.	No. 2.		No. 3.
		A.	B.	
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Oil	36.5	27	32	30.43
Cake	36.8	(*)	(*)	43.48
Husk and wastage	26.7	(*)	(*)	26.09
Total	100	.....	.....	100

* Not determined.

It will be observed that the yield of oil obtained by cold drawing was considerably larger than that by the other process. The general native estimate of the yield of castor oil is 25 per cent on the quantity of beans used. The experiments at the Government farm were conducted under European supervision, and were carefully carried out, which will account for the increase in yield.

In Bengal the castor seeds are partially roasted in a pan and pounded in a mortar, without being husked. The stuff so prepared is mixed with water and placed in an earthen pot or jar over a fire, the quantity of water used being 2 or 3 inches above the level of the crushed seed. As the water evaporates the oil rises to the surface and is then poured into another vessel. The jar is then removed from the fire and allowed to cool, after which some cold water is added to the mixture, when the jar is placed in the sun. The oil still remaining in the mixture then appears at the top and is removed by hand. The oil thus obtained is boiled again in a separate pan, by which process any moisture and all other extraneous matter are eliminated, and the oil becomes purified and fit for consumption in lamps. There is another process for the extraction of oil from castor seeds followed by the people of this presidency, which differs but very slightly from that already described. In this method the seeds are boiled with water before being pounded. When

they become soft they are placed in the sun, and when dry are crushed. Chunaki seed gives 35 per cent of oil; Gohuma, 37.5 per cent; and Jagia, 31 per cent.

The following processes are followed by one of the manufacturers in Calcutta in extracting oil from the castor bean:

(1) The seeds are first cleaned with the hand by women. They place a quantity of seed on a smooth board and with a flat wooden mallet give them one or two strokes, which break the seeds into two or three pieces, thus rendering the separation of the husk easy. The broken seeds are then winnowed with a common basket winnower, which removes the husk from the kernel. The kernels are then dried in the sun and afterwards broken by a crushing machine. They are then put in small canvas or gunny bags and pressed in the hand machine, the oil falling into a pan placed underneath. The oil is collected in large galvanized-iron vats and bleached by exposure to the sun, which also causes the sediment to precipitate. It is next boiled, in order to evaporate any remaining moisture; vegetable charcoal is added to it, and the oil is then filtered through flannel or blotting paper. The oil thus obtained is of the purest quality, used only in medicine, and is manufactured to order. No fire is applied during the pressing, and hence no irritating part of the seed finds its way to the oil. The yield, however, is 10 per cent less than that obtained by the following method.

(2) The seeds are husked, crushed, and pressed as before. At the time of pressing fire is put under the machine, the heat from which liquefies the oil and increases the yield, with which, however, a certain portion of the irritating or injurious part of the seeds is mixed. It is then bleached and boiled as before and filtered with the addition of animal and vegetable charcoal. This kind of oil is not ordinarily made, but an oil produced in the same manner, except the filtering, is largely manufactured and extensively exported.

(3) The seed is not husked by hand, but by machine, and is therefore not quite free of husk, and the oil, not being so clean, sells at an inferior price.

Some of the jails in India employ many of the prisoners in the manufacture of castor oil. The cleaning and grading of the seeds are done by females, who first remove all extraneous matter, such as dust, pebbles, and foreign seeds, and who then, by means of sieves with different sized meshes, grade the seed into four sizes. The splitting of the shell is done with a machine which consists of two smooth iron rollers placed parallel to one another and working toward one another. It is worked by hand by a simple arrangement of cogwheels. One of the cylinders or rollers is fixed, the other is movable by a screw adjustment. By means of the latter contrivance the space between the cylinders can be regulated to the required distance. The space is increased or diminished according to the size of the seed about to be split. The great point is to give the seed a sufficient squeeze, so as to split the shell without crushing any of the oily matter out of the kernel. It will now be understood why it is necessary to grade the seed, and experience has taught that castor seed can be placed in four grades according to

size. A wooden box is placed above the cylinders to hold about 8 or 10 pounds of seed at a time, which keeps the cylinders constantly supplied. The cylinders are each about 2 feet long, so the process of splitting goes on very rapidly. The use of a mallet and board for the purpose of splitting the seed, as employed elsewhere, is a slow process entailing a large employment of hand labor and the disadvantage of frequently bruising the kernel and prematurely extracting and losing the oil.

The seed is passed on to the winnowers, who separate the husk from the kernel on large masonry platforms. Sunning is a very necessary step in castor-oil manufacture, not only to dry any moisture there may be in the kernel, but to liquefy and facilitate the exit of the oily matter.

The kernel is now taken to the crushing machine, which is similar to the splitting machine, except that the two cylinders work close together and are both immovable. In this the kernel is crushed.

The crushed kernel is now put into pieces of canvas about 15 by 12 inches, the sides of which are folded over so as to prevent escape of the kernel. These canvas bags are placed alternately with iron plates into the screw press, the pressure from which is applied horizontally by means of two powerful screws. Each screw has a wheel fixed to it, in which are sockets for the insertion of lever bars. Four men are generally employed in working the screws by means of lever bars. As pressure is applied to the canvas bags the oil oozes out of them into a trough placed below. At the back of the press a fire is kept up to facilitate the exudation of oil. Each canvas bag holds about a pound of crushed kernels, and each feed of the press requires from one hundred and thirty to one hundred and fifty such canvas bags.

The thick, slimy oil thus obtained is passed into the hands of the boilers, who, mixing it with water in the proportion of 40 parts of oil to from 5 to 8 parts of water, boil it in large copper pans. The boiling of the oil is perhaps the most delicate stage of the whole process of the manufacture. To know exactly when to stop the boiling is a point of knowledge acquired by great experience. Thermometers were used at one time, but the results were not satisfactory. Now the experienced boiler is guided by his eye and by his sense of touch. As soon as he sees that the bubbling of the oil is about ceasing, and finds that the sediment lying in grains at the bottom of the pan has acquired a certain color and crisp consistence he knows the oil is sufficiently boiled, and quickly extinguishes the fire.

The oil is removed, and, after having passed through a bed of charcoal and six or eight folds of calico, is ready for use.

THE OIL IN THE INDUSTRIES.

The castor-oil plant is largely cultivated in Assam to feed the silkworm. An excellent paper pulp is made with the bark from the stems. The oil is frequently used by the Indian dyers, and it has the reputation of being one of the best for dressing tanned hides and skins, as it repels rats and other vermin and does not interfere with subsequent polishing. This oil is the most eligible one for lubricating all sorts of machinery, clocks, watches, etc.;

it is the best lamp oil in use in India, giving an excellent white light vying in brilliancy with electricity, far superior to petroleum, rape seed, mustard, linseed, and all other oils, whether vegetable, animal, or mineral. The slowness with which it burns and its freedom from danger as a lamp oil is a great recommendation. The railways in India burn it, as the soot it gives out is almost imperceptible. It is used very extensively by the great perfumers in the manufacture of the fancy articles they put on the market, and enters largely into the making of some kinds of varnish. There is no necessity for speaking of its medicinal excellencies.

CASTOR-OIL CAKE.

At the Alahabad East Indian Railway station the lamps are lighted with the gas obtained from the castor-oil cake. It has been found to be an excellent material for that purpose. It is very highly esteemed as a manure, and it is stated that castor cake and bone meal mixed together form a better fertilizer for sugar cane than either of these manures alone. At the Seebpore farm castor cake proved a better manure than saltpeter for wheat. An acre of land manured with 1,920 pounds of the cake gave 9,966 pounds of potatoes, whereas an acre with 960 pounds of cake and 480 pounds of bone meal gave 7,752 pounds of potatoes, cow dung giving a return of 5,220 pounds, and an acre not manured at all only 5,100 pounds of potatoes.

CASTOR-OIL EXPORTS.

From 1850 to 1881 the export of castor oil expanded from 100,000 gallons to over 3,000,000 gallons. The following table shows the quantity and value of exports of castor-oil cake and castor oil during recent years, the old-fashioned hundredweight being used:

Whither exported.	Quantity.			Value.		
	1889–'90.	1890–'91.	1891–'92.	1889–'90.	1890–'91.	1891–'92.
Castor seeds.	*Cwts.*	*Cwts.*	*Cwts.*			
United Kingdom	237,388	189,733	81,229	$527,276	$375,810	$148,562
France	450,301	447,997	413,796	1,029,622	907,672	736,748
Other countries	206,942	222,042	340,900	467,866	432,469	611,481
Total	894,631	859,772	835,925	2,004,764	1,715,951	1,496,891
Castor oil.	*Gallons.*	*Gallons.*	*Gallons.*			
United Kingdom	782,550	1,101,604	1,384,745	313,724	399,468	448,928
Australia	1,005,780	1,200,078	1,037,904	420,692	498,573	373,341
Other countries	876,660	855,552	851,331	359,972	346,509	318,142
Total	2,664,990	3,157,234	3,273,980	1,094,388	1,244,550	1,140,411

In preparing this report I have been greatly indebted to Dr. George Watt, reporter on economic products with the government of India.

SAMUEL MERRILL,
Consul-General.

CALCUTTA, *February 22, 1893.*

JAVA PETROLEUM.

The Dortsche Petroleum Company commenced operations about the middle of 1888 with a capital of 350,000 florins ($140,700), and is reputed to have paid last year a dividend of 80 per cent. At Wonokromo, 5½ miles from Sourabaya, it has erected a large refinery, employing some 200 men.

The oil is procured at present from wells at a village called Djabakkoto, 4 miles from Wonokromo, being conveyed to the refinery by pipes.

At Djabakkoto there are twenty-seven wells varying in depth from 100 to 800 feet. The density of the oil is 23° to 42°. At another village (Gogor) there are six wells, the deepest being 1,850 feet. There is also a gas well at Gogor with a pressure of 438 pounds. The gas is utilized for stoking purposes.

The area of the Dortsche Petroleum Company's concessions in different parts of Java is about 150,000 bahoes (a bahoe is 1¾ acres). At present there are about 90,000 tins of oil obtained every month, which will soon be increased to double that amount. The oil costs, packed in tins and cases, 2.29 florins (1 florin=40.2 cents) per case, and is sold in Sourabaya by agents of the company for 3.62½ to 3.65 florins. The company buys up Devoe's empty tins and cases and utilizes them for its oil, which is sold as American oil. Many complaints are heard of the poor quality of the present Devoe oil, which is really Java oil put on the market as Devoe in Devoe's tins and cases. The demand for this Java oil is far greater than the supply.

There is another concession for petroleum—the Goenoeng Sarie—granted by the Government to a Chinese family, the Twan Lok, with a registered capital of 300,000 florins; but they are reputed to have formed a Chinese company with 4,000,000 florins capital. At present this company has an area of 250 bahoes, upon which there are three wells of from 75 to 350 feet deep. The well of 75 feet depth discharges 396,000 liters* in twenty-four hours, the oil having a density of 17°. This company has been working for only a few months, and anticipates putting in a plant of sufficient capacity to deliver 100,000 liters per month. Labor is cheap. The labor cost per foot for sinking the wells averages 1 florin for the first 150 feet.

Twelve wells are being put down near Pasverolan, Kedirie, Toebang, Rembang, and Banjoewangie, concessions having been granted and companies formed for petroleum. There is a good field for American oil machinery, of which nothing is known.

B. S. RAIRDEN,
Consul.

BATAVIA, *January 26, 1893.*

* 1 liter=2.113 pints.

WOMAN AND CHILD LABOR IN GERMANY.

The agitation for shorter hours of labor finds, perhaps, its most vigorous expression in the movement in behalf of women and children. There are special reasons for this.

The prevailing conditions grow out of causes essentially modern. With the introduction of improved machinery, dispensing in great measure with physical force and often with trained intelligence, came the inevitable substitution of woman and child labor. Carl Marx early recognized this and promptly predicted what has happened. Old-World conditions have always favored the employment of women and children, but their numbers have grown so rapidly during the past two decades as to excite grave apprehension in the minds of thinking men of all classes. This, in connection with their state—physical, mental, and moral—affords ample justification of the interest their condition has excited. It is claimed that 40 per cent of the female population in Germany is engaged in trying to earn a living. Such a considerable part of the whole—to say nothing of the large numbers of children likewise employed—can not fail to work a strong influence in social development.

Of 17,632,008 persons tabulated according to trade or calling in 1882, 75.8 per cent was male and 24.2 per cent female. Certain industries, from their character, take the lead in employing female labor; 5.6 per cent of the total female population is estimated as belonging to the servant class. Of 1,334,007 persons returned as employed in tailoring and laundry establishments, 576,517 (43.22 per cent) were women. Textile industries furnished employment to 850,859 persons, and of these the women numbered 328,780 (38.05 per cent). In paper factories there were 37,685 men and 20,847 women, the latter comprising 35.6 per cent. Working in tobacco factories were 64,474 men and 48,919 women, the latter being 43.1 per cent. Of 8,236,496 persons engaged in farming and kindred occupations, 2,534,909 were females. In 1890 there were reported to be 130,079 women employed in manufactories, and of these 84,625 were engaged in spinning establishments.

The increase in the number of women workers in recent years can be seen from the following table, industrial occupations alone being considered:

Year.	Small industries.		Large industries.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.
1875	3,453,357	705,874	2,010,499	410,221	5,463,856	1,116,095
1882	3,487,073	989,422	2,327,966	517,321	5,815,039	1,506,743
Increase	33,716	283,548	317,467	107,100	351,183	390,648
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Percentage of increase.	1	40.1	15.8	26.1	6.4	35

A comparison of wages and the cost of living affords the best evidence of the hardships experienced by this class of workers. Berlin and Breslau are taken as representative cities, and the figures given in the accompanying table are the average weekly wages paid to females in the industries mentioned:

Industry.	Berlin.			Breslau.		
	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Paper factories (by the hour)*	7.50	10.50	9.00	2.73	5.00	4.09
Cane factories (by the piece)*	6.00	13.00	8.00	5.00	8.89	7.22
Picture frame factories (by the hour)*	7.50	10.50	9.00	4.20	8.00	6.10
Cigar factories (by the piece)†	5.50	12.00	8.00	6.36	9.09	7.27
Clock factories (by the piece)‡	6.00	15.00	9.00	5.45	9.09	6.82
Artificial flower factories (by the hour)§	2.78	13.33	8.06	3.00	13.00	7.50
Furrier (by the hour)‡	10.00	15.00	12.00	3 64	7.27	5.45

* Ordinary factory hands.
† Rollers.
‡ Ordinary factory hands and sewing women.
§ Ordinary factory hands and assistants.

Some comment is called for in connection with this table. The condition of the Berlin working women is by no means so favorable relatively as the figures would seem to indicate. The cost of dwellings is from 45 to 50 per cent higher in Berlin than in Breslau, and food is reckoned from 2 to 24 per cent higher. The average weekly cost of living in Breslau is thus estimated: Dwelling, 1 mark; dinner, 1.75 marks; breakfast and supper, 2.25 marks; sick fund, 15 pfennigs; total, 5.15 marks. No allowance whatever is made for the following items: Clothing and washing, heating and lighting, care of health, recreation, etc.

This instance is typical. What is true of the two cities just cited holds good elsewhere. A higher scale of wages usually means a higher cost of living. A few quotations will suffice to show that the wages prevailing in other centers do not differ essentially from those already given. In Stettin working girls in linen mills receive from 4.80 to 7.20 marks weekly; piece workers, from 7.20 to 9.60 marks. Women employed in dressmaking, etc., earn from 4.50 to 9 marks. In tailoring establishments the wages vary from 3.60 to 6 marks.

In Posen the average weekly wages for sewing girls on linen articles is about 3 marks; tailoresses receive 3.60 marks; those working by the piece get about 9 marks. Piece workers on linen goods working from daybreak until 9 or 10 o'clock at night can earn from 12 to 15 marks weekly.

In Erfurt a sewing woman with the aid of a machine earns from 6 to 9 marks. Those sewing by hand can not make over 5 marks on the average, and those less industrious do not make over 2.50 marks.

In Stuttgart a sewing girl earns on the average 7.56 marks weekly; a tailoress 7.32 marks.

Turning to child labor, we find an array of facts of much the same tenor. Speaking absolutely, as well as relatively, there has been an increase of late years in the number of children employed. In 1882, according to official reports, there were 143,262 children 15 years of age or less engaged in factories or in kindred work. In 1886 the number of those employed up to 16 years of age was 155,582. The increase in the leading industries during the period from 1884 to 1890 is shown in the following table:

Industries.	1884.		1890.		Increase or decrease since 1884.	
	From 12 to 14 years.	From 14 to 16 years.	From 12 to 14 years.	From 14 to 16 years.	From 12 to 14 years.	From 14 to 16 years.
	Number.	*Number.*	*Number.*	*Number.*	*Per cent.*	*Per cent.*
Mining, foundries, etc.	690	15,958	843	22,730	— 12	+ 42
Quarries	1,589	12,844	3,173	21,686	+100	+ 68
Metal-working	1,080	15,685	1,566	25,101	+ 45	+ 60
Machinists	495	10,002	934	21,489	+ 90	+101
Chemical industry	427	1,760	360	3,515	— 6	+100
Heating and lighting apparatus	43	394	52	853	+ 20	+102
Textile industry	6,908	37,545	9,404	58,038	+ 36	+ 54
Paper and leather	709	7,743	1,314	11,930	+ 85	+ 54
Wood-carving	668	4,473	1,358	8,771	+101	+ 98
Food supplies	4,320	13,891	6,340	20,571	+ 46	+ 48
Clothing	796	5,939	1,212	8,398	+ 52	+ 60
Polygraphic industry	468	4,435	681	7,158	+ 45	+ 60
Other industries	253	3,548	248	4,066	— 2	+ 14
Total	18,716	133,517	27,485	214,252	+ 47	+ 60

There was, then, a total increase of 89,504, or 59 per cent. The greatest increase took place in Saxony. From 3 to 5 marks weekly for young people from 14 to 16 engaged in the textile industries is the general compensation. As to children under 14, an example is taken from the district of Trier, where in a number of cigar factories the wages in 1891, according to the Government inspector for that district, amounted to about 6 cents for a day's work of six hours.

Dr. Kuno Frankenstein, in one of his brochures (from which some of the foregoing statistical matter has been drawn), thus sums up the matter:

> A very large part of the working women in our large cities receive wages which do not suffice to satisfy the most urgent needs of life, and accordingly find themselves obliged either to seek supplementary assistance in prostitution or to accept the inevitable consequences of physical and mental distress.

This view is further confirmed by official testimony. The factory inspector for Schleswig, in the official report for 1891 already referred to, remarks that employers state that working women in that section are very often of doubtful moral character, preferring to seek employment in factories rather than enter domestic service, because of the greater freedom, and that it is by no means unusual for concealed prostitution to seek in factory work a convenient cloak. The inspector for the Plauen district also calls attention to the significant fact that of 1,912 children born during 1891, 330 (17.25

per cent) were illegitimate. In contrast with this, the official figures published in 1885 showed that between 1879 and 1883 only 12.5 per cent of those born were illegitimate. In the following cities the percentage of illegitimacy was: Breslau (1881), 16.14 per cent; Leipsic (1874–'83), 15.5 per cent; Berlin (1881–'86), 13.62 per cent; German Empire (1881–'83), 9.3 per cent.

The comparative mortality during the first year per 100 of legitimate and illegitimate children for the period embraced between 1875 and 1882 is seen from the following table:

Cities.	Illegitimate.	Legitimate.
Königsberg	55.32	27.41
Berlin	50.26	29.67
Breslau	48.91	31.06
Magdeburg	47.8	28.29
Frankfort	36.97	20.04
Cologne	32.85	26.14

It is by no means to be inferred that the conditions above alluded to are confined to Germany or that they are worse there than elsewhere. On the other hand, many salutary changes have been effected of late years, and the Imperial Government has enacted much progressive and humane legislation. In this category are the laws for the protection and indemnity of workmen in case of accident, sanitary regulations for factories and sleeping apartments, and the like. An elaborate system of factory inspection has been adopted. The Empire is divided into fifty-two districts comprising about one hundred and twenty-five inspectors and assistants. Prussia has the largest number of districts—nineteen; Saxony comes next with seven. The largest number of inspectors assigned to any one district is thirteen—the district of Düsseldorf, which includes the large manufacturing cities of Crefeld and Barmen.

The obstacles thrown in the way of effectual supervision, as the official reports disclose, are not few. Numerous cunning evasions of the law are resorted to, and not infrequently employers visit their resentment upon employés. Thus in the district of Merseburg-Erfurt the inspector in his last report mentions a tobacco factory where the effects of filth and bad ventilation were plainly apparent in the pale and sickly countenances of the youthful employés of both sexes. Upon being ordered to conform to the sanitary regulations, the proprietor immediately dismissed all the children in his employ. This is one of many cases in point.

Most European countries have laws protecting in some degree women and children. The following information, for which I am indebted to Lux's Sozialpolitisches Handbuch, shows in a general way the leading features of existing legislation. A few changes have been recently made. France adopted a new labor law last October making eleven hours a day's work for women and children. Further, Germany enacted some months since a more stringent law regarding Sunday labor.

EUROPEAN MINOR LABOR LEGISLATION.

Austria.—Child work is forbidden in factories up to the fourteenth year; in trades up to the twelfth year. Up to 14 years it is restricted to eight hours daily, then to eleven hours; the hours can be further restricted up to the age of 16. The hours of employment are between 5 a. m. and 8 p. m., with an intermission of an hour and a half. Child labor is forbidden up to the fourteenth, or, if necessary, up to the sixteenth, year in cases where the work is unhealthy or hinders physical development or interferes with schooling. The Sunday rest is twenty-four hours. Restrictions apply as in Germany.

Belgium.—Child labor is prohibited up to 12 years. The number of hours of work daily for those from 12 to 18 years is twelve at most, including pauses, with one and a half hours' intermission. Night work up to the twelfth year is forbidden.

Denmark.—Child labor is forbidden up to the tenth year, and children from 10 to 14 years must not be employed longer than six and a half hours daily; from 14 to 18 years, twelve hours. The hours of labor are from 6 a. m. to 8 p. m. for children and from 5 a. m. to 9 p. m. for young people, with intermissions of two hours, one and a half hours of which must be before 3 p. m. Sunday work is forbidden to children and young people. The law applies to factories, etc., but inspection reaches only 25,000 workmen.

France.—Child labor is forbidden up to the twelfth year. The age may be reduced, with permission, to the tenth year in certain industries, like textile, glass and paper factories, etc. The daily hours are limited to six up to the twelfth year; twelve hours from 12 to 16 years; apprentices under 14 years, not more than ten hours; from 14 to 16 years, not more than twelve hours. Pause is required. Night work is forbidden up to the sixteenth year and in unhealthy and dangerous occupations, unless otherwise permitted by public decree. In factories where uninterrupted work is indispensable children may be employed at night and on Sundays, but sufficient time must be granted them for religious devotions. These exceptions are made in favor of paper, sugar, glass, and metal industries.

Germany.—Child labor is forbidden up to the thirteenth year, and children under 14 years must not work more than six hours per day, with an intermission of half an hour. The hours of labor for those over 14 are between 5:30 a. m. and 8 p. m., with intermissions of one hour at noon, and a half hour in the afternoon. Children are forbidden to work on Sundays and holidays in certain industries for moral reasons. The exceptions are similar to those which apply to woman labor. Sunday rest is twenty-four hours; during two successive holidays, thirty-six hours; at Christmas, Easter, and Whitsuntide, forty-eight hours. These regulations are restricted to factories and mines. Inspection is provided by law.

Great Britain.—Child labor is forbidden up to the tenth year; up to the fourteenth year when no doctor's certificate can be produced. In textile factories the hours must be divided into morning and afternoon. Not more

than four and a half hours of uninterrupted work is permitted. The restrictions are for young people from 14 to 16 years; after 16 years they work on full time. The hours of labor are from 6 a. m. to 6 p. m. or 7 a. m. to 7 p. m., with intermission of one and a half hours, one hour of which must be before 3 p. m.; half an hour on Saturdays. Work is forbidden on Sundays, Christmas holidays, and Good Fridays. Further, there are eight half holidays, which are not to fall on Saturday. The regulations are restricted to factories and mines, excepting only flax factories and where no children are employed. Factory inspection is required.

Italy.—Child labor in mines is prohibited up to the ninth or tenth year. Up to 15 years children may be employed in factories, mines, etc., only upon production of a medical certificate. The working day consists of eight hours for children up to 12 years of age. Night work for children under 12 years is forbidden; from 12 to 15 years six hours work. The intermission is one hour. Work is prohibited in dangerous and unhealthy occupations up to 15 years. Night work of children under 12 years is permitted in factories which are run without cessation. The regulations apply only to factories and mines.

Netherlands.—Children are forbidden to work up to the twelfth year and in dangerous occupations up to the sixteenth year of age. A day's work is eleven hours. The hours of employment are from 5 a. m. to 7 p. m., with one hour intermission. Night work is forbidden for children under 14 years from 10 p. m. to 5 a. m. Sunday work is permitted from 14 to 16 years till 6 a. m. Women and children are protected in religious devotions. The law applies to factories and shops, including work at home.

Sweden.—Child labor is forbidden up to the twelfth year in factories and shops, and is restricted under 14 years to not more than six hours daily; under 18 years not more than ten hours. Night work is forbidden. The intermission for children is half an hour; for young people, two hours. They are forbidden to work in mines. The law applies to factories, small shops, and mines. Inspection is required.

Switzerland.—Child labor is forbidden up to 14 years, and for minors from 14 to 16 years to not more than eleven hours daily, including schooling. The hours of labor are between 5 a. m. and 8 p. m., with one hour intermission. Labor is forbidden during school and confirmation period up to 18 years, and further when required in the interest of the children. The exceptions are when help of children is indispensable to the completion of a job and when the proper learning of a trade requires it. Sunday rest is twenty-four hours. The restrictions are the same as in Germany.

EUROPEAN WOMAN LABOR LEGISLATION.

Austria.—The daily number of working hours is eleven. Work is forbidden from 8 p. m. to 5 a. m. The intermission is one and a half hours. Labor is prohibited in dangerous and unhealthy industries. The exceptions are factories working day and night.

Belgium.—Night work is forbidden for females up to the twenty-first year. Labor is prohibited in mines beyond the reach of daylight. The exceptions are numerous.

France.—Night work is forbidden for girls up to the twenty-first year, unless wives and widows, from 9 p. m. to 5 a. m. Labor is prohibited in mines beyond the reach of light.

Germany.—The daily hours of labor number eleven; ten hours before a holiday. Night work is forbidden from 8:30 p. m. to 5:30 a. m., and on days preceding holidays after 5 p. m. The intermission is one hour; married women, one and a half hours at noon. Work is forbidden for six weeks after accouchement or for four weeks upon production of doctor's certificate, and, upon grounds of morality and health, in certain occupations indicated by law. The working hours during any one year can be prolonged by special permission to thirteen hours daily, until a total of forty additional working days has been reached. Saturday cleaning and work necessitated by natural causes are not reckoned. Spinning factories and factories working day and night are exempted.

Great Britain.—The daily hours of labor number ten—nine before a holiday; from 6 to 6 or from 5 to 5. In textile factories the hours number fifty-six and one-half per week, including half an hour for cleaning. Night work is prohibited. The intermissions are one hour and a half, one hour of which must be before 3 p. m.; half an hour on Saturdays. Work must be interrupted after five consecutive hours; in textile factories two hours. Rest must be taken at the end of four and a half hours' consecutive work. There are no special regulations for married women. Labor after dark is prohibited in winter. Night work and extra work are permitted in factories run by water power, when necessitated by nature of the business during specified periods, when called for by unforeseen circumstances, and in cases of danger.

Netherlands.—The hours of labor daily number eleven, between 5 a. m. and 7 p. m. Night work is forbidden from 10 p. m. to 5 a. m. The intermission is one hour. It is forbidden to work for four weeks after accouchement. Work is restricted in dangerous and unhealthy occupations. There are exceptions in unusual events and in pressing business demands.

Sweden.—Labor in mines is prohibited to females under 18 years.

Switzerland.—The hours of labor number eleven per day; ten before holidays. Work is permitted at any time between 5 a. m. and 8 p. m. Night work is only allowed in factories working continuously. The intermission is one hour; married women, one and a half hours at noon. Employment of women two weeks before accouchement and six weeks after is forbidden. The cleaning of engines and dangerous machines in motion is prohibited. Spinning factories and factories working day and night are exempted.

ALBERT H. WASHBURN,
Commercial Agent.

MAGDEBURG, *March 7, 1893.*

HISTORY OF LABOR EMPLOYMENT IN FRANCE.

HISTORY OF GOVERNMENT EXPERIMENTS.

It was centuries ago—far back in the Middle Ages—when civilization was young and the substantial liberty of to-day but a rare and fitful dream, that the disturbing question of securing employment for workmen through some regular and responsible agency first presented itself for consideration and possible solution. The shackles of fuedal bondage had been removed, and there were thousands of freemen in France upon whom lay the responsibility of self-support. Their former masters no longer, of necessity, provided them either with employment, food, raiment, or lodging. The "new-made" freemen had to seek employment by applying for it in person or by standing on "hiring places," where those in need of workmen could see and make terms with them. There was a third method employed by those who wanted work, and that was to seek the good offices of certain monasteries and convents, which institutions had already taken upon themselves the charitable task of finding places for nurses and household servants.

There is a quaint old book, which was written in the year 1263 by Etienne Boileau, entitled "Registry of Trade and Merchandise in Paris," which tells many interesting things about the hiring of labor in those remote days and throws much light upon the condition of the workman when he first began to acquire the right to earn money for himself.

In the thirteenth century most workmen where hired, not by the hour, day, or week, but for several months, for the year, or for a term of several years. Taskwork was forbidden, and there were stringent enactments about the furnishing of tools to artisans. The artisan was not permitted to work at home, but was compelled to toil in a general workshop. All workmen who came to Paris were compelled to wear the costume of Paris workmen and to furnish some sort of references or recommendations from their last employers. In the sword-polishing trade, no workman was hired unless he was in possession of a respectable wardrobe. Later on, when the associations and corporations had come into existence, an effort was made to circumscribe competition by limiting the number of workmen which a master might employ. A master cutter was allowed two apprentices, and, if he had three, he was obliged to place one elsewhere or send him out of Paris.

By a decree of King John (1351) employers were forbidden to compete for workmen by offering an advance of wages.

The workmen hired by the year did not compose all the working population of the Middle Ages. A host of others out of employment from dearth of work, expiration of contract, exactions of employers, and manual or moral deficiency stood on the public places, where employers came to choose among them. These hiring places were not open to every class of workmen; each trade had its exclusive "place" in the city. This method of hiring workmen was not limited to Paris, but extended to all the considerable towns

in the provinces. By an order of King John employers who were in want of men were commanded to hire them on these public places.

REGISTRY OR INTELLIGENCE OFFICES.

The registry offices also originated in the Middle Ages. They were intended first to procure employment for female domestics and nurses. The first registry of the kind was connected with religious institutions, and notably with that of the Order of St. Catherine; but soon regular registry offices were opened in different parts of Paris, and they became, in a short time, very lucrative, as may be inferred from the fact that the four daughters of the nurse of Jean le Bon were each authorized to open a registry for nurses in Paris, which was considered at the time a valuable privilege. The directors of the offices were called "commandaresses." The modern "intelligence office" owes its origin to these ancient offices of registry for nurses.

GUILDS AND ASSOCIATIONS.

In the Middle Ages the social distinctions made between master and man in the trades were very slight. Both were affected by the same misfortunes and both pursued the same career; they worked side by side; they lived together, and formed, in reality, but one class. This primitive equality became much altered toward the close of the fifteenth century. The monarchy, which was beginning to assert its power, united all trades and arts into corporations in every town in the Kingdom and put a heavy tax on them, so that the rich could afford to meet the demands of the Government; and by this means they came to be regarded, and they regarded themselves, as privileged persons. The old equality and simplicity vanished. The apprentice had to serve much longer than before, and was not able to obtain an independent position (set up for himself) until he had paid a tax and made a costly *chef-d'œuvre*, or masterpiece, given a banquet to his former masters, etc.; so that the poor workmen were condemned to toil for the same masters, and were never able to go into business for themselves, no matter how capable they might be.

As the difference in station between master and men became more and more pronounced, a breach still wider separated the contractors from workmen; and these latter, excluded from the employers' association, turned out of the old domestic intimacy by the pride of those who owed their new position only to their money, exasperated by hard work and small wages, saw no other resource open to them than that of rallying about each other and forming district associations opposed to the coalitions of their employers and of capital.

Animated by the spirit of the times, these associations took at first a religious form, the character of pious congregations (*confréries*), and fixed their head offices in one of the chapels of the parishes the most frequented by tradesmen. These congregations were originally benevolent societies, of which the revenues were destined to defray the expenses incident to the feasts of patron saints, to help the sick and the infirm, and to educate young

men. But soon other interests engaged the attention of members of the associations, and they began to dictate laws for fixing the amount of wages and the hours of work.

Against this new danger, the employers solicited the protection of the secular arm. Their grievances had the result of provoking a profusion of royal ordinances, of which the most notable was that of Charles IX (1570), confirmed by that of Henri III (1576), in which it was decreed that workmen were forbidden to turn any of their companions from the service of their employers or to assemble in any public place on pain of death, and all secular or regular ecclesiastics were forbidden to allow in their cloisters or other parts of their habitations any assembly of workmen's associations.

However, these stringent decrees did not discourage the newly formed associations, but, on the contrary, favored their development, as, being refused the publicity of their grievances, the workmen met in secret and resolved on plans of self-protection which were suggested by the persecution to which they were subjected.

Already in the sixteenth century these associations had developed into a vast federation of syndicates or guilds, which defended their common interests by strikes, threats, and, when necessary, by armed force. They were no longer of a local character, but embraced all workmen of the same trade throughout the country. All the young men who had finished their apprenticeship made their "tour de France" before settling down. Each trade had certain towns marked out for it, where the young men could either find work or members of their trade. The "tour de France" for carpenters, for instance, was Paris, Sens, Auxerre, Châlon-sur-Saône, Lyons, Avignon, Marseilles, Nîmes, Montpellier, Béziers, Toulouse, Bordeaux, La Rochelle, Nantes, Tours, and Chartres.

These associations were closely watched by the authorities, who were not slow to note their influence, and several royal decrees were issued against them. Even the faculty of theology of the Sorbonne condemned these associations in 1658 in unmeasured terms, which condemnation received official sanction in Paris in the following year; but these anathemas and excommunications proved of as little use as the royal edicts. Twenty years afterwards they flourished stronger than ever.

HIRING WORKMEN IN THE SEVENTEENTH AND EIGHTEENTH CENTURIES.

In order to counteract the influence of the workmen's associations and thwart their tactics, the employers united themselves and adopted secret resolutions. They exacted, for instance, from all workmen who applied to them a certificate from their previous employers, attesting that they never injured their (employers') interests, and they also obliged them to register their names with the secretary of the society. This secretary became in a short time the intermediary between the workman and his employer, and thus were founded the registry offices for all kinds of trades, hitherto limited to nurses and domestics.

Theophraste Renaudet, physician in ordinary to Louis XIII, conceived the idea of opening in Paris and all the provincial towns registry offices for servants, artisans, and workmen, and obtained for this purpose letters patent from the King. In these bureaus were kept in registry books the names and addresses of those employers who were in need of hands, and consequently the person in search of work had only to repair to one of these institutions to find what might suit him. These offices became in a short time so besieged with applicants that the Government utilized them in the interests of public security, and imposed, by a royal decree, on all strangers and persons out of employment the necessity of inscribing their names on the registries. However, after some years these offices became more or less unpopular, and finally had to be closed.

CONDITION OF LABOR IN 1789.

At the time when the revolution broke out in 1789, work was almost everywhere at a standstill, and the working classes were reduced to great straits. The harvest of 1788 was destroyed by hail, and the succeeding winter was exceptionally rigorous; the country was threatened with famine. The critical state of industry and commerce was still more aggravated by the agitations which preceded and followed the elections of the États-Generaux, by the events of July 14 and those of the 5th and 6th of October, and, in a word, by the ferment existing throughout the mass of the population.

A large number of workmen were idle in Paris, and all those reduced to misery in the provinces flocked to the capital. House-building being totally at a standstill, masons, stonecutters, carpenters, locksmiths, etc., increased the ever-growing multidude of indigents, so that the authorities became alarmed and took steps to remedy the situation.

In the month of May, 1789, the city of Paris created, in order to help the workmen, offices of public works in different quarters, for which a large sum was voted by the National Assembly. Unfortunately, a host of beggars and vagabonds flocked in from all sides at this news, to the great detriment of honest workmen. They even insisted on receiving a day's pay without giving its equivalent in work, and soon the authorities were obliged to send them all back to their respective departments under escort and reserve all the work for citizens of Paris.

NATIONAL WORKSHOPS.

Shortly afterwards the departments claimed subsidies from the National Assembly, and the crisis became general and prolonged. At this conjuncture Malluet proposed to Parliament to create throughout the whole of the Republic and at the national expense workshops for the needy. The Assembly voted for the proposition, and the workshops were immediately opened in the provinces. These workshops were of two kinds—the first, where only taskwork was given, while the second were reserved for those who were weak from old age or constitutional causes and who were paid by

the day. The daily wages were always inferior to the current wages of the country for the same kind of work and were regulated by the administration.

As regarded Paris, only those who had a domicile in the city or were born there could be received in any of the workshops opened in the capital. None were admitted under 18 years of age, and all were obliged to inscribe their names on the register kept for the purpose. They were also obliged to furnish themselves with the necesssary instruments—shovels, spades, picks, etc. In case they were not able to do so, the tools were given to them; but a certain amount was retained from their wages weekly until the full price was paid. The work consisted for the most part in clearing and draining grounds, making canals, planting forests, opening up roads, and other work of a like nature. However, at the end of a year these national workshops became a source of embarrassment to the Government, and toward the middle of 1791 a deputy (M. de Liancourt) presented a report to the Assembly, in which he set forth with much precision the abuses to which these workshops gave rise and the great drag they were on the treasury. In it he said that Parliament had voted a sum of $72,000,000, of which $80,000 were given to each department. The number of workmen increased in Paris, so that in a few months 31,000 men had to be provided for by the Treasury. It became impossible to control properly this large multitude, and consequently a great number of those employed were men who had already sufficient private means, while a still greater number were simply idlers who presented themselves at the roll call, but who refused to work and got their day's pay nevertheless. The report concluded by proposing to close all these workshops and to open extensive public works. The National Assembly adopted this view, and all the workshops, except those in which women and children were employed, were abolished.

In spite of the opinions of certain historians, the dark years of the revolution were not disastrous to private industry. At the time when France was the prey of internal dissensions, when she was defending herself against the allied powers of Europe, and when the most strenuous efforts of national activity were absorbed by the needs of the public safety, her industry, according to the report of the Paris Chamber of Commerce published in 1804, rose to a higher level than it had touched under the ancient régime.

How was hiring of workmen affected during this period (1791–1803), which had no small influence on industry? We have no precise knowledge of it, but it may be supposed that the workmen stood on the public places and were engaged as they were wanted.

LABOR UNDER THE SECOND REPUBLIC.

The great number of idle workmen occupied seriously the attention of the Provisional Government after the revolution of 1848, and this consideration was fully justified by the condition of the affairs of the country.

To provide work for the thousands of unemployed workmen, the building of public offices was immediately ordered. These measures procured work, however, for but a small portion of the population of Paris; the greater

part remained idle on account of the industrial crisis and the closing of private manufactories. Soon 100,000 men were out of work.

The system of national workshops was developed to meet the exigencies of the circumstances; the town halls were crowded with applicants, who accepted work at the rate of 40 cents per day. In a few weeks over 100,000 men had to be provided for by the treasury, and, although they belonged to different trades, they were given but one kind of work, for which the greater part were unfitted.

Moreover, no serious control was exercised on this mob of men. Many of them got themselves inscribed in several sections and received the pay; others presented themselves only for their salaries and worked in the meantime in private workshops; while overseers placed on their books fictitious names and pocketed the surplus salaries. For such reasons taskwork was substituted; but the success was not greater, and it was finally decided to abolish the national workshops. This measure gave rise to the terrible and bloody riots of the 23d to the 26th of June, 1848.

UNDER THE SECOND EMPIRE.

After the *coup d'état* of 1852 the Government of Louis Napoleon reopened the question of registry offices and instituted a commission to inquire into the working of the whole system and to see if it were to the advantage of the workmen that they should be maintained. At the end of some weeks the commission decided that the registry bureaus might be reopened on the condition that the directors be approved of by the municipal police, that they present sufficient guaranties of morality, and that the offices be submitted to a periodical inspection. On the proposition of the commission a decree to that effect was issued by Napoleon on March 25, 1852, and is still in force.

UNDER THE THIRD REPUBLIC.

Since 1870 the relations between workmen and employers have been modified by some important measures. The law of March 21, 1884, recognized the utility of workmen's syndicates or trade unions by the following paragraph:

> Employers' and workmen's syndicates can create and administer, with entire freedom, bureaus for offers and demands for work.

Labor exchanges were soon afterwards created in different towns, and the laws relating to workmen's livrets was repealed.

Already in 1848 M. Ducoux, prefect of police, conceived the project of creating a labor exchange in one of the populous districts of Paris, and submitted to Parliament a proposition to that effect, and asked for a sum of 300,000 francs to defray the expenses. The proposition was rejected, and the question lay dormant until 1875, when M. Delâttre, along with some of his colleagues, laid on the table of the municipal council the following request:

> The undersigned request that a labor exchange be created in the Rue de Flandre, in order to afford a shelter to the numerous groups of workmen who assemble every morning to be employed in the docks.

This project, which only affected one district, was made general by the committee appointed to study it, and in a short time the administration was requested to "establish labor exchanges in every place where workmen of different trades assembled to be hired."

However, it was not until 1887 that the project took a definite shape, when a central bureau was opened in the Rue J. J. Rousseau. This bureau was subsequently transferred to the Rue Chateau d'Eau, where it was inaugurated with great solemnity on the 22d of May, 1892.

This example of Paris was quickly followed by different provincial towns, and every year new exchanges are being opened.

These labor exchanges have for objects: (1) To suppress the assembling of strikers on the public streets; (2) to facilitate the placing of workmen; (3) to suppress the registry offices; (4) to centralize offer and demand; (5) to establish direct relations between workmen in general.

Of late years the registry offices have become very unpopular, and, I think, will be abolished. In 1888 hostility ran very high; some of the offices were wrecked and others seriously injured by dynamite explosions. However, after a short time the partisans of the closing of those bureaus were not slow to recognize that a pacific and legal action would have more chance of success. They formed themselves into a league, held several meetings, and in the end drew up a petition bearing 12,000 signatures, setting forth, not only the inutility of these offices, but the great prejudice they caused workmen, and the grave abuses practiced by them. But, as these registry offices were authorized by the law of 1852, the municipal council could do no more than pass a resolution praying for the abrogation of the law.

The league then made an appeal to the Chambers, and called together a congress to better emphasize the agitation in favor of suppressing the offices, which passed a series of resolutions with the same object in view. Finally, the minister of commerce brought the question under the notice of the Conseil Supérieur de Travail, which proposed in its session of February, 1891, the following resolutions: (1) The decree of 1852 rendering obligatory a permission to open a registry office ought to be repealed; (2) the business of registry offices should be made entirely free; (3) municipalities should be no longer obliged to create registry offices. These resolutions were forwarded to the proper person, but so far no legislative action has been taken on the subject.

LABOR EMPLOYMENT IN EUROPE.

I have thought it well to make some inquiries about the method of securing employment for servants and workingmen in some of the other countries. I find that in Germany the persons who are employed as clerks in shops and countinghouses are generally members of benevolent societies which find situations for those belonging to them. The societies are found in all the large towns. The clerks, also, have recourse to the daily press. There also exist registry offices for domestic servants of both sexes, inde-

pendently of the numerous charitable institutions, which interest themselves chiefly in obtaining places for female servants in return for a very small consideration. As regards workmen, there are to be found in several quarters of every large town small inns supported by certain trades, called "Heberges," where a list is kept of all the employers in need of men. Frequently the employers themselves go there to engage the workmen they want. In the port towns the sailors are enrolled by a middleman, who is generally an innkeeper and who goes by the name of "Bass." As has been seen, the only registry offices in Germany are those for servants, of which there are one hundred and thirty in Berlin. They seem to give satisfaction, as no outcry has been raised against them; however, it has been remarked that both masters and servants seem to have more confidence in the charitable institutions, and address themselves to them in preference.

There are very few organized intelligence offices in Austria. Persons in search of employment prefer to make personal inquiries or to advertise in the newspapers. Personal inquiry is made generally in certain inns, public houses, public meetings, etc. It is in this primitive manner, also, that sailors are enrolled; the captains find in taverns well known to be frequented by sailors all the men they may need. The greater part of the workmen engaged in the construction of railways, canals, or other works of a similar nature are hired directly by the foremen or overseers. These men so hired are obliged to pay a considerable sum from their salaries to the person who has obtained for them the place or the work; consequently the workmen are entirely in the power of the overseers. It frequently happens that grave abuses result, which, when they come to the knowledge of the authorities, are severely suppressed. Situations or work are obtained in Austria by one of the three following methods: (1) By registry offices for the special trades; (2) by workingmen's syndicates (*Gewerbe-Genossenschaften*); (3) by societies or corporations. The registry offices are mainly for servants, whereas the workmen have recourse to the two special agencies above mentioned. Besides these agencies, there exist a certain number of charitable institutions which are worthy of mention, viz: Society for propagating manual labor among the Isrealites; society for furnishing a night refuge for the outcast; society for liberated prisoners; society for placing apprentices; society for finding work for individuals out of place. In 1891 the latter society obtained work for 3,698 persons.

In Belgium the intelligence office business is exercised without any control on the part of the Government, but each office pays a tax, which varies from 10 to 90 francs, according to the importance of the business. They are, as in Austria, entirely destined for servants, and a workman would never think of applying to these offices for a situation. In Brussels there are thirteen registry offices and forty-eight lodging houses for servants and housekeepers. Of these sixty-one houses, seventeen are honest and respectable, twenty satisfactory, and twenty-four absolutely bad from a moral point of view. For workmen there are several labor exchanges, where they are sure to be able to

find work sooner or later. Employers have confidence in these institutions and frequently have recourse to them. During the year 1891 there were 5,361 applications made by workmen, and of this number 4,091 found employment.

From all that I can gather in the way of pertinent information on the subject of intelligence or registry offices, I am inclined to the belief that they should be subjected to close government control or scrutiny.

FRANCIS B. LOOMIS,
Consul.

ST. ETIENNE, 1893.

COMMERCE AND INDUSTRIES OF SWANSEA.

INDUSTRIES.

There are one hundred and forty works of thirty-six varieties within a radius of 4 miles of Swansea harbor employing about 30,000 people. Numerous other works are located elsewhere within this consular district employing a large number of laborers. Among the important products of these works are tin, terne and black plates, steel, steel tubes, steel rails, copper, silver, zinc, nickel, lead, pig iron, castings, machinery, fire bricks, superphosphates, patent fuel, arsenic, alkali, bleaching powder, copperas, oxalic acid, pyroligneous acid, and other chemicals.

It is estimated that the quantity of copper smelted in the local works in a year is 21,000 tons, of the value of $8,156,250; steel, 500,000 tons, of the value of $12,500,000. The spelter or zinc manufactured in Swansea forms nineteen-twentieths of the whole production of the Kingdom, of the total value of $2,500,000. One year's make of tin and terne plates in the neighborhood of Swansea is about 6,000,000 boxes, valued at $25,000,000. The total shipment of tin plates at Swansea in 1880 was 405,488 boxes, weighing 25,343 tons, which had increased in 1890 to 3,710,552 boxes, of 229,791 tons in weight, of the value of $17,234,325.

The total imports, exclusive of coastwise, for the year prior to September 30, 1892, was $8,837,041, of which the United States furnished $152,411, while the value of the total foreign exports for the same time was $19,827,877, of which the United States took $10,136,461. The total foreign trade of the port was $28,664,918. To this should be added, to give the total trade of the port, 23,098 tons of foreign sundries not classified, 272,132 tons of imports and 405,240 tons of exports coastwise, of the estimated value of $22,000,000, making the total imports and exports, foreign and coastwise, $51,664,918 for the year ended September 30, 1892.

DOCK FACILITIES.

The dock accommodation at Swansea consists of the North, South, and Prince of Wales docks, all supplied with the most modern hydraulic machin-

ery and appliances for discharging and loading cargoes of every description with dispatch and fitted throughout with the electric light.

The Prince of Wales Dock, constructed for vessels of the largest burden, possesses one of the largest and deepest locks in the Bristol Channel. The docks are surrounded by more than 20 miles of railway (the property of the Harbor Trust) connecting the docks with each of the great railway systems, viz, the Great Western, London and Northwestern, and Midland. The quays, upward of 3 miles in length, are furnished with fifty hydraulic and steam cranes and twenty-one hydraulic coal tips.

Lines of steamers are already established between Swansea and the following ports: New York, Baltimore, Philadelphia, Hamburg, Nantes, Bordeaux, Rouen, Lisbon, Leghorn, Genoa, Batoum, etc.

TIN PLATE.

There are ninety-six tin-plate works in England and Wales, with a total of five hundred and nineteen mills. Fifty-one of these works, with a total of two hundred and seventy-six mills, are located in this district. Three or four of the works in the Swansea district are idle, and some others are not running all their mills. Several new works were established in the district to meet the demand for tin plates under the low duty prior to the taking effect of the McKinley act, otherwise there would now be few, if any, mills idle.

The exports of tin plates, including terne and black plates, from this port during 1892 were the largest on record, exceeding those of any former year by nearly 20,000 tons; and, while the shipment coastwise decreased during that year, the direct shipments abroad increased 13 per cent. The total shipments have increased more than 600 per cent during the last ten years. Steamers of 2,500 tons and upwards, net register, are regularly engaged in this trade.

Total export of tin plates from 1877 to 1892.

Year.	Coastwise.	Foreign.	Total.
	Tons.	*Tons.*	*Tons.*
1877	6,515	4,479	10,994
1878	8,919	3,506	12,425
1879	19,839	6,599	26,438
1880	24,007	1,336	25,343
1881	21,836	8,525	30,361
1882	19,330	16,631	35,961
1883	25,353	41,835	67,188
1884	33,316	73,682	106,998
1885	46,693	103,075	149,768
1886	53,665	137,708	191,373
1887	61,750	139,172	200,922
1888	57,369	144,527	201,896
1889	42,605	153,791	196,396
1890	33,641	196,150	229,791
1891	42,971	190,049	233,020
1892	36,398	216,228	252,626

Very much designated as coastwise was transferred to ocean liners at Liverpool and went abroad.

PATENT FUEL.

The materials used in the manufacture of patent fuel are coal dust and coal-tar pitch, the Scotch pitch being better than the English because it is not distilled so hard. When the small coal, or slack, is received at the works it is sifted, the dust being made into fuel and the small pieces of coal being used as fuel in the furnaces. The pitch is crushed between fluted rollers, and the dust and pitch are then elevated separately to a platform, where they are fed in the proportion of about 1 pound of pitch to 2 pounds of dust into the mixing apparatus, which is a vertical iron cylinder 3 by 8 feet, inside of which is a revolving shaft with arms. Steam is thrown into the bottom of the cylinder to soften the pitch and dampen the dust. By machinery the damp mixture is pressed into molds the size of, say, three common bricks. The brick is then taken from the mold by machinery and carried away to be stacked.

There is a French patent in use at one of the works in the district which turns out bricks 5½ inches square by 1⅞ inches thick, with nine three-fourth-inch perforations in each brick. The fire from these bricks is almost smokeless, the perforations producing perfect combustion of the gases.

The exports of patent fuel from Swansea during 1892 were 381,609 tons, Italy and France being the largest importers. The price, free on board, is about $3 per ton.

COAL AND COKE.

Anthracite.—Extensive anthracite-coal measures are located in this district. This coal is but very little used here or elsewhere in the United Kingdom. From long custom the open-grate fire of bituminous coal has become an indispensable requisite to the comfort of the Welsh and English home. It is only within the last two years that anthracite stoves were introduced here. The first to come were from France, and burn only a fine pea coal. During the past year the American base-burner has been introduced and quite a number sold, giving satisfaction wherever used. The trade in these stoves will develop slowly, owing to the prejudice against all stoves; but, as anthracite is cheaper here than bituminous coal and a ton of it used in a base-burner will last much longer than a ton of bituminous burned in an open grate, where the heat largely escapes by the flue, economy will dictate the extensive use of anthracite in stoves at no distant day. Of the anthracite product here, the largest exports have been to France. Prior to 1891 a few cargoes were sent to San Francisco. During that year the shipment to the Pacific coast was materially increased. During 1892 many sailing vessels of large tonnage have visited this port in connection with this trade, some of them having taken part cargoes of tin plate to San Francisco. The total export of anthracite during 1892 was about 500,000 tons, of which about 80,000 tons went to San Francisco.

Bituminous.—Bituminous coal has been mined in this district since the year 1305. The export during 1892 was about 926,000 tons, going mostly to European countries.

Coke.—There are few coke ovens proper in the district. Some of the coke made is the product of the various gas works. About 30,000 tons were exported last year.

Exports of coal, coke, and patent fuel during the years 1890–'92.

Year.	Coal and coke.	Patent fuel.
	Tons.	*Tons.*
1890	1,488,242	386,905
1891	1,415,058	353,525
1892	1,456,842	381,609

EXPORTS.

Total export trade of Swansea harbor for the years 1891 and 1892.

Articles.	1891.	1892.
	Tons.	*Tons.*
Coal, patent fuel, and pitch	1,802,950	1,878,875
Metals and their ores (not iron)	192,232	190,211
Iron, steel, iron ore, and tin plates	411,359	443,553
Timber and other building materials	98,588	117,550
Materials connected with the chemical trade	82,600	91,605
Agricultural produce (food)	50,594	70,622
Vegetable and animal produce (manufactures)	10,309	9,109
General merchandise	78,303	72,322
Total	2,726,935	2,873,847

This commercial agency was established February 26, 1892. Its records show the value of declared exports to the United States from that date to January 1, 1893, to be $6,836,778.83.

CHAS. M. HOLTON,
Commercial Agent.

SWANSEA, *February 24, 1893.*

ASPHALT-MINING IN TURKEY.

There is an important mine of asphaltum near the seaport of Avlona, on the Adriatic Sea. This mine belongs to the domain of the Sultan, and is rented by a French company for a period of thirty years. The company is represented here by the Imperial Ottoman Bank. Asphaltum is extracted from the mine both in liquid and solid condition, and is exported to Europe and America. There are two or three asphaltum mines in Turkey in Asia, in the neighborhood of Erzerum, belonging to the Government and private parties, but they are of less importance. These mines are situated in the interior of the country and are not worked, owing to the lack of facilities for transportation.

Nothing is known here about the methods of preparing the so-called Egyptian asphaltum obtained from mines in Turkey, as it is exported in its natural state—liquid or solid.

WILLIAM B. HESS,
Consul-General.

CONSTANTINOPLE, *March 27, 1893.*

BRISTOL EXPORTS TO LATIN AMERICA.

In this agricultural part of England there is little produced that finds a market in Latin America.

There is an export trade in galvanized iron from Bristol to Buenos Ayres amounting in the course of the year to about 1,000 tons. This trade has suffered, as have others, from the political troubles of South America and the high exchange rate now prevailing; but it has held its own through all difficulties, owing to the fact that the material is a necessity in the Argentine Republic. The entire trade in this commodity from this district is in the hands of one firm, who are probably the largest shippers of this material in the world. They devote almost all their attention to foreign markets, having agencies all over the world; and they give little concern to supplying domestic demands. Their preëminence is due, I am informed, to the carefully maintained excellence of their output and to their large employment of mechanical methods. It is said that their cost of production is under that of competing firms, through their use of machinery and the large scale upon which they are enabled to work. I do not quote prices, as these constantly vary and are accessible to anybody interested in the iron market.

The shipments of galvanized iron to South America consist entirely of sheets, corrugated, and of wire nettings. Hollow ware is not sent. Shipments are not made, as a rule, direct from Bristol, owing to the difficulty of getting lighter cargo to complete the loading.

Owing to the depressed state of the shipping interest, freights are and have been very low; and the firm in question, owing to their dealing in such large quantities, are enabled to secure the most favorable terms.

There is also a considerable export of manufactured cocoa and chocolate from Bristol to the South American states, especially to Chile and the west coast. A superior quality, such as is imported into the United States, is taken in those markets, largely in the form of confections and creams that sell retail at a price ranging from $1 per pound upwards. They are tastefully arranged in pasteboard boxes elaborately ornamented.

A careful inquiry of individuals throughout this district and the kind coöperation of the chamber of commerce of Bristol has failed to develop other instances of local shipments to those markets.

LORIN A. LATHROP,
Consul.

BRISTOL, *February 10, 1893.*

METAL PRODUCTION OF GERMANY.

ZINC.

Zinc is produced in Germany almost exclusively from domestic ores, as the importation of zinc ores into the German customs district very little exceeds the exportation.

Of the entire amount of zinc ore obtained in Germany (in 1891 about 800,000 tons, valued at 25,000,000 marks*) the province of Silesia yields about four-fifths, the rest coming principally from the Rhine Province and Westphalia. The amount of zinc produced in the German Empire increased from 58,386 tons, valued at 23,000,000 marks, in 1872 to 139,353 tons, valued at almost 63,000,000 marks, in 1891. This is an increase of 139 per cent in twenty years.

Of the entire 1891 production, 88,421 tons (63.5 per cent), valued at about 39,000,000 marks, were from the Government district of Oppeln; 13,357 tons (9.6 per cent) from the district of Arnsberg, 14,939 tons (10.7 per cent) from the district of Dusseldorf, 17,198 tons (12.3 per cent) from the district of Aix la Chapelle, and the remaining 5,438 tons from other parts of Germany (principally from the Government district of Cologne and from the Kingdom of Saxony).

In 1891 there were in operation altogether twenty-eight zinc foundries, employing 9,586 workmen. Besides these, there were three others in which zinc was a secondary product. Of these zinc foundries, two were situated in the Government district of Oppeln, the most important being the two "Silesia" foundries near Lipine, the Hohenlohe Foundry, and the Wilhelmine Foundry, near Schoppinitz, which in 1891 turned out more than 10,000 tons. Not one of the seven foundries in the Rhine Province and Westphalia produced in 1891 less than 5,000 tons. More than one-third of the entire world's production of zinc (according to a French authority, 368,000 tons were produced in 1890) comes from the German Empire. Next in importance are Belgium (83,000 tons in 1890) and the United States (about 58,000 tons).

LEAD.

In Germany lead is produced chiefly from potter's ore (*Bleiglanz*), which generally contains silver. This comes from the vicinity of Aix la Chapelle, the Harz Mountains, Silesia, the neighborhood of Ems, and in part from abroad. In 1891, in the German Empire, 159,215 tons of lead ore, valued at 17,000,000 marks, were produced. In 1872 there were 53,550 tons of lead produced, against 95,615 tons (an increase of 78.6 per cent), valued at 23,000,000 marks, in 1891. Of this amount the Government district of Oppeln supplied 18,430 tons (19.3 per cent); the district of Hildesheim, Communionharz, and Anhalt, 13,564 tons (14.2 per cent); the district of Wiesbaden, 13,455 tons (14.1 per cent); the district of Aix la Chapelle, 41,770

*1 mark=23.8 cents.

tons (43.7 per cent); the rest of Germany (principally the Kingdom of Saxony), 8,396 tons.

There were in 1891 thirteen lead foundries in operation, exclusive of ten in which lead was a secondary product. Of these, two were in the Government district of Oppeln, four in the Harz Mountains, two in the district of Wiesbaden, four in the district of Aix la Chapelle, and one elsewhere. The largest amount of lead (over 20,000 tons) was produced in 1891 in the Mechernich Foundry in Aix la Chapelle, over 10,000 tons being produced by the Royal Friedrichs Foundry, in Silesia, and by the Münsterbuscher Foundry, near Stolberg.

Among lead-producing countries Germany is third, only Spain and the United States producing larger quantities. The total production of the world in 1890 was estimated at 646,000 tons. From this it appears that about one-seventh of the world's production of lead is German.

COPPER.

The heaviest production of copper in Germany is at the Mansfeld works. On an average the ore in these mines does not yield more than 2½ per cent of copper, and from 4 to 5 kilograms* of silver to each ton of finished copper. The Duisburg Foundry and the Königs Foundry, in Silesia, use foreign (Spanish and Portuguese) copper ore, as do also two foundries in the Hamburg free port district. Copper is also obtained in Westphalia and the lower Harz Mountains.

The entire amount of copper produced in the German Empire in 1872 was 6,356 tons. In 1891 24,092 tons (about four times as much), valued at 28,000,000 marks, were produced. Of this Prussia yielded 20,448 tons. The copper production of the entire world in 1890 was estimated at 270,000 tons, of which the United States supplied 116,000 tons, Spain and Portugal 52,000 tons, and Chile 26,000 tons. Of the entire amount Germany supplied about 9 per cent.

SILVER.

Silver is obtained in Germany from domestic lead and copper ores and also from foreign ores, chiefly Central and South American. In 1872 there were 127,007 kilograms, valued at about 23,000,000 marks, produced. In 1891 the production amounted to 444,852 kilograms (almost four times as much as in 1872), valued at 59,000,000 marks. To what an extent silver prices have fallen in the past twenty years is shown by the fact that in 1872 the selling price of 1 kilogram of silver at place of production was 177.74 marks, while in 1891 the price had fallen to 132.62 marks. The German works in which the greatest quantities of silver are produced are the fiscal works at Freiburg, in Saxony, and the Mansfeld copper works (each in 1891 over 80,000 kilograms); furthermore, the North German Affinerie, in Hamburg, the lead foundry Münsterbusch, near Stolberg, and the silver works at Lautenthal, in the Harz.

*1 kilogram=2.205 pounds avoirdupois.

About one-tenth of all the silver produced in the world is German. The entire production of the world in 1891 was, according to the estimate of the United States Mint, 4,465,822 kilograms.

GOLD.

The gold production of the German Empire, obtained chiefly from the ores from which silver is taken, amounted in 1872 to 328 kilograms, worth nearly 1,000,000 marks. In 1891 there were produced 3,077 kilograms (nearly ten times as much), valued at 9,000,000 marks. Of this the two Hamburg works produced 1,992 kilograms, valued at 5,500,000 marks. Large quantities are also produced by the fiscal works at Freiburg, the Communion Foundry, at Oker, and the foundry at Lautenthal. The entire gold production of the earth in 1891 was, as estimated by the United States Mint authorities, 188,531 kilograms.

RÉSUMÉ.

The above figures show that of the entire production of the world Germany's share in 1891 was: Zinc, 38 per cent; lead, 15 per cent; copper, 9 per cent; silver, 10 per cent; gold, 1½ per cent.

GEORGE H. MURPHY,
Consular Clerk.

BERLIN, *March 16, 1893.*

MEXICAN COMMERCE.

During the quarter ended March 31 commerce advanced somewhat, the exports from this port amounting to $444,240.11, the preceding quarter being only $231,939.44, thus showing a balance of $212,300.67 in favor of this quarter. Although trade is not very brisk, yet it appears to hold its customary course.

Import duties, which go into effect April 15, have been increased on drugs and other articles, as follows: Patent medicines, 25 per cent; Scott's Emulsion, 900 per cent; chewing tobacco, 30 per cent; cigarettes, 20 per cent; cut tobacco for pipes, 20 per cent; snuff, 10 per cent. There was also an increase on many other articles, besides a heavy increase of internal revenue on all goods.

A law has also gone into effect requiring from 1 to 3 per cent of the value of the real estate of a person deceased to go to the Government.

Exchange varies between 1.50 and 1.55, and is conducted by a few merchants dealing with New York.

JOHN DRAYTON,
Consul.

TUXPAN, *April 10, 1893.*

AFFAIRS IN NATAL.

AMERICAN VESSELS.

Only one American vessel has arrived since my occupancy of this agency (November 17, 1892)—the bark *Rebecca Crowell*, of Boston, laden with general cargo. She left here on the 19th of December in ballast.

COMMERCE.

The commercial affairs of this colony have for some little time been at a low ebb, and in all probability will further decline. This is principally attributable to the loss in carrying and handling goods consequent upon the keen competition of the Cape Colony railway system, which is now connected with Johannesburg, the celebrated gold-mining center, which affords that colony greater and easier means of reaching this grand emporium of inland trade.

RAILWAYS.

The outlook for the future is more hopeful, owing to a recent convention between the Transvaal and this government. A railway survey is being made, and terms of construction have been agreed upon, which will connect this colony's railway system (now extended to the border) with that of the Transvaal. This, however, is subject to the final approval of the Volksraad, which meets in May next. Should it (as is very probable) be assented to, communication with Johannesburg will very soon be established, and the geographical position of Natal will assert its virtual control of trade over that of the Cape Colony. The distance for the land transport of goods via Natal is less than half of that via the Cape route. In the event of the Natal Railway being carried on to Johannesburg, the only means for the Cape Colony to retain its comparative ascendency in the inland trade is for a customs union, to which the people of Natal are decidedly averse.

RESPONSIBLE GOVERNMENT.

Responsible government has been offered to this colony by the British Government. An election was held in order to give the electors an opportunity to pass upon its acceptance. Ten members to the legislative council were returned in favor of the bill and fourteen against. Four of the latter were challenged on account of election informalities. The seats were declared vacant, and in one county two in favor of responsible government have been returned. The remaining two seats will be contested during January, 1893, when in all probability the responsible-government candidates will be returned; and with a majority of four responsible government will be accepted. Difficulty arises in great centers like Durban, which has but little more representation than counties containing not one-half its population.

HARBOR IMPROVEMENTS.

Considerable progress is being made at the harbor of Port Natal all round. The bar at the entrance to the harbor has been improved, and at low water there is an average of 13 feet, which, with a rise of 6 feet at high tides, allows a vessel drawing 19 feet to enter with safety. In many cases large steamers drawing over 20 feet have entered at spring tides.

COAL TRADE.

The coal industry is assuming large proportions. All steamers calling here are supplied with the colonial coal. Even British men-of-war are calling to coal. The whole of the Natal Railway engines are supplied with this coal, which gives every satisfaction. This coal can be supplied at the harbor at about $5 per ton.

J. PERROTT PRINCE,
Consular Agent.

DURBAN, *December 31, 1892.*

RHENISH WESTPHALIAN COAL SYNDICATE.

The most powerful syndicate that has ever existed in Germany has just been formed by the Rhenish Westphalian coal mines. This combination of no less than one hundred and seventy collieries, producing annually about 27,000,000 tons of coal, or 50 per cent of the entire output of Germany, is viewed by certain classes of the population with fear, while others believe that it will prove a benefit to the country.

The matter has received its full share of criticism in the German Reichstag by certain deputies, who look upon this great combination of coal-owners as a means of enriching a few at the expense of the masses. The Prussian Minister of Commerce, in replying to the fears entertained by this party, expressed the opinion that, if the syndicate adheres strictly to the principles upon which it has been formed, it will prove to have been a wise and good move in the interest of the country, considering the recent great depression in this most important industry of Germany. He said that it is true that this syndicate can be of great harm to German industries, but it can also bring good; that no one knew what to propose as a means, on the one hand, to prevent the pushing up of prices, and, on the other, the underselling of German coal—in other words, to bring about stability in prices and in wages of workmen—until the largest coal mines united to regulate the production and prices. "If the syndicate has only the object in view," continues the Minister, "of insuring to the mines a moderate interest on the capital invested, no one will reproach the combination."

Until recently the prices of coal stood at a point very unfavorable for the mines. The cost of production in the Saar district in the fiscal year 1891–'92 was greater than the price of coal in 1888–'89. In 1888–'89 the

cost of production averaged about $1.38 per ton, against $2 in 1891–'92. The coal price in 1888–'89 averaged $1.76 per ton, which is considerably below the cost of production in 1891–'92. The price during the current fiscal year is $2.11 per ton, which is a trifle above that of the cost of production.

As a result of the syndicate, which went into operation on March 1, 1893, there has already been a rise of 8 to 9 per cent in the contract price of coal for future delivery. English coal competes greatly with the Westphalian coal, and this has caused no little stir among the German coal-owners.

WM. D. WAMER,
Consul.

COLOGNE, *March 9, 1893.*

IMPORTATION OF AMERICAN CATTLE.

The corporation of Newcastle has made application, as is shown by the annexed press report, to the board of agriculture for their approval of the St. Lawrence sanatorium as a landing place for foreign animals subject to slaughter, in order that cattle and sheep from Canada and America may be landed there.

This action is taken with the view of encouraging the importation of cattle and sheep direct from the United States and Canada.

I note that my predecessor, Mr. H. C. Pugh, transmitted to the Department under date of February 6, 1890, a report upon the Newcastle cattle market.*

HORACE W. METCALF,
Consul.

NEWCASTLE, *April 21, 1893.*

THE IMPORTATION OF CANADIAN CATTLE.

[From the Newcastle Daily Journal of April 13, 1893.]

The finance and cattle trade committees presented a joint report, in which they stated that they had had before them applications by shippers of Canadian and American cattle to land at the St. Lawrence sanatorium cattle and sheep imported from Canada and America, and subject to slaughter in the sanatorium under the present regulations of the board of agriculture, which, with regard to Canada, were made in the autumn of 1892 in consequence of an outbreak, or suspected outbreak, of pleuropneumonia in cattle brought from that country. Animals from America had long previously been subject to slaughter. Last year, before the regulations as to Canada came into force, 7,748 head of cattle and 1,722 sheep from that country were landed at St. Lawrence. Having regard to the desirability of keeping open the trade, the committees recommended the council to apply to the board of agriculture for their approval of the St. Lawrence sanatorium as a landing place for foreign animals subject to slaughter, in order that cattle and sheep from Canada and America may be landed there.

*See CONSULAR REPORTS No. 114, page 494.

Alderman Stephens proposed, and Mr. J. A. Baty seconded, the adoption of the report.

Mr. Baxter Ellis proposed that the matter be adjourned to the next council meeting.

Alderman Richardson said the urgency of the matter was that the navigation of the St. Lawrence opened on May 1, and they must be ready for it or miss the season.

The report was adopted with only one dissentient.

ALCOHOLIC LIQUORS IN FRANCE.

The increase in alcoholism has attracted considerable attention in France during the last few years. The Academy of Medicine has called this fact to the attention of Parliament, and a committee has been appointed to inquire into the nature of the alcohols used in the manufacturing of beverages that enter so largely into the daily consumption. A report which has recently been sent to the minister on the subject has caused considerable excitement among consumers, and the press of the country has commented freely upon the results of the investigation.

It is well known that the production of natural wine in France, on account of the destruction of the vineyards by the phylloxera and cryptogamous diseases, has decreased so greatly that the tendency of the poorer classes is to drink spirits, instead of the pure grape juice, which is now very dear. The result of this habit is that drunkenness and insanity have increased, and the effect on the workingmen has been very marked.

The idea has been current that good brandy and spirituous drinks could be obtained at the large restaurants and cafés if one were willing to pay the price demanded for unadulterated liquors; but this commission states that the exorbitant cost of the article is no guaranty of its purity. The difference between what was sold in these places and that retailed in the poor quarters of Paris was insignificant.

Mr. Guillemet, a deputy from the Vendée, has proposed in the Chamber of Deputies, in the name of the general excise commission, that the sole right of rectification of alcohols be given to the Government. This, the honorable deputy argues, will not only bring into the treasury of France a large sum, but it will also relieve the French population from the terrible effects of alcoholism, as the spirituous liquors are now so terribly adulterated.

A series of analyses was made by Dr. Héret, chief of the pharmaceutical department of the Trousseau Hospital, and he states that it is the bad quality rather than the quantity of alcoholic drink consumed that produces the evil results.

"It is conceded," says Mr. Guillemet, "that fine brandies are manufactured in France, and that the bottles bear the marks of houses of world-wide repute; the wealthy consumer buys what he thinks is absolutely pure Cognac, but incontestable figures prove that nine-tenths of the alcohol drunk in France is adulterated in many ways."

The commission procured a large number of samples of liquors from establishments of all classes of retailers. These were submitted to a careful

analysis, and every one was declared "dangerous and bad;" all were imperfectly rectified.

The experiments made by Dr. Héret showed that of five samples of Cognac taken from fine boulevard restaurants, where they were sold at 1 franc the liqueur glass, each one was injurious to the health, and all had been colored with caramel. Among other samples of brandy obtained from less pretentious saloons the analysis manifested that common wood alcohol diluted with river water, colored with caramel, and flavored with a mixture composed of ether and vegetable substances existed in all. These were much less dangerous to health than many of the samples tested. The examination made showed that the alcoholic beverages sold to workingmen, like much that is sent to the United States, contained impure wood alcohol, amylic acid, formic ethers, etc. These samples were sharp, caustic, burning, and colored with caramel, vegetable matter, and methyline. All were labeled "dangerous," but not more so than those sold at 75 centimes and 1 franc the glass on the boulevards.

It is a noteworthy fact that all these so-called brandies were manufactured; not one of them was natural pure grape juice.

The question has been often asked, what is it that gives these brandies their color and perfume? The analysis just made shows that the former is generally given by adding caramel and catechu. The latter is supplied by mixing certain ethers and vegetable substances together.

The chemists are still pursuing their analyses on the subject, and are certain that they can show exactly what materials are employed in adulterating and preparing so-called Cognacs and brandies without the natural grape juice.

Considering the importance of the exports of alcoholic drinks from France to the United States, these analyses are worthy of careful consideration by the American consumers.

WALTER T. GRIFFIN,
Commercial Agent.

LIMOGES, *March 16, 1893.*

IMPORTS OF CORN INTO MEXICO.

The import of American corn into Mexico in 1892 was the most interesting, and financially one of the most important, of any commercial event which has over occurred between the two countries. Had it not been for our nearness and our unlimited supply, thousands of the very poor must have died for lack of food. As it was, there was much severe suffering, and the effects will be felt for many years.

At this writing corn, corn meal, and beans are on the free list, and considerable quantities of the first are going into the country. Unless rains come soon, importations will increase and may possibly reach as high a figure as last year.

For the past three or four years there have been partial or entire failures of crops in many portions of Mexico. Some sections have made half a crop and then failed entirely for one or two years. The very few localities where good crops were raised were quite unable to supply the deficiencies in others, deficiencies which grew larger year after year. The cause, of course, was a general or partial failure of seasonable rains, and the result was a corn famine and consequently great suffering.

In this connection, it may be well to state the widespread uses of corn as a food in this country. Roasting ears are fully appreciated, and form, for some weeks, an important part of the family food. When too old for this and still soft, the grain is utilized in various ways in making mushes, gruels, etc. As two crops a year are often raised, the period during which green and new corn may be eaten is considerably increased. Its main function, however, is after it has ripened and been harvested.

The stalks are often topped so as to preserve the best portion of the fodder and the corn snatched, that is, pulled from the stalk without taking off all the husks. When gathered, it is kept piled in storerooms until ready to shell. The husks are often left on for convenience, and also, in some localities, because it is supposed to delay the attacks of the weevil. This insect is the ever-present menace to ripe corn. To carry this grain over a year requires much care and expense, and even then the result is not usually successful. It is because of this fact that the country is peculiarly affected by a failure. The reserve supply is always small and usually entirely disappears by the time the next crop is ready to harvest. To be sure, there are small supplies in various districts, but they are not of much account in feeding a large population when the new crop fails.

As I have stated, bad years became too common, the small home reserve was all gone weeks before the scant new crop came to maturity, prices rose, and labor fell off until there was great suffering.

Most of the cultivated lands are held by *hacendados*, who hire laborers by wage or by share. As one crop failed and the rains did not come in season for the next, these could not plant nor give work or food to those who were in such urgent need.

In the early part of 1892 some corn was imported and put on sale by merchants. The Kansas cost was about 40 cents per bushel, and freight to border 25 cents more. Adding 5 cents for expenses, the border cost was about 70 cents. Here the duty—1 cent per kilogram, or 25 cents per bushel, equal to 18 cents in United States money—was paid. From here to the interior—San Luis Potosi or Mexico—the freight rate at that time was about 38 cents in Mexican money, or 27 cents in United States money; and, with 5 cents per bushel for brokerage and expenses, the total cost in the interior was $1.20 per bushel in our money. Reducing this to Mexican money at 40 per cent would give the local Mexican cost at about $1.70. On this there were octroi dues, petty expenses, and profits; so that it cost consumers not less than $2 (Mexican) per bushel.

It was found, however, that dealers did not always content themselves with a reasonable profit, but took advantage and raised the price beyond the reach of the needy. These latter, it must be noted, were in much larger proportion than in good years and were out of work and money, so that it was a double burden. As a result there were some local corn riots, and, though but few died directly from want of food, yet the suffering and indirect fatality were very considerable.

About the time when the situation was becoming serious the Federal Government took action. First this consisted in conceding to various State governments, municipalities, or boards the free import of fixed amounts with the condition that it be sold at or near cost and in small quantities to consumers. Even this was not sufficient, and finally the unconditional free entry was declared and extended over sufficient time to carry the country to the fall crop. This brought a great rush of corn from Kansas, Nebraska, Iowa, and Texas. Hundreds, and at one time thousands, of carloads were waiting entry into Mexico, and the facilities of the three lines—National, International, and Central—were taxed to the utmost.

Some time in November it was learned that the free import was to stop at the end of the month, and corn shipments blocked all the lines of roads leading to Laredo, Texas. Hundreds of carloads crossed in a single day, and still a large number could not be got across before the duty was imposed. For some weeks only 25 per cent of the regular duty was exacted, and it was expected that the spring crop would have sufficient promise so that further free import would not be necessary. This, however, has not happened. Though some sections have had good rains and will raise fair crops, others are not so fortunate. There was a considerable supply of our corn in the country, yet it was found that the imposition of the duty had raised prices and was causing suffering. Thereupon the Government again freed it of the duty and added the proviso that it should hold thus until further notice. Since March 15, 1893, when this took effect, corn has gone in again, but not in such large quantities. This action has had the effect, though, of keeping interior prices down to a reasonable figure, but not as low as formerly, because of higher freight rates.

In speaking of corn, I mean, of course, shelled corn. The duties on corn meal and beans were removed at the same time and for the same cause, but the imports of these two have not been large.

I have spoken of the great range of the uses to which corn is put in this country. The larger portion of the people of Mexico are very poor, improvident, and live largely from their daily or weekly wages. They rarely save, and are often in debt to their employers. Their main foods are corn and beans. Shelled corn is soaked in a weak limewater and then rubbed on a stone called a "metate" into a fine mass or paste. This is patted out by hand into thin cakes and baked on coals, hot irons, or stones, and the product is the famous "tortilla." Generally salt is the only addition to the corn and water. These, eaten alone or with beans or meat, make the chief daily

food of, say, 10,000,000 out of the 11,500,000 inhabitants of the country. Corn cakes such as we use in the Southern United States are almost unknown, and our corn meal is too finely ground to make the favorite tortilla. Besides, meal will not keep well in this hot climate. A corn-meal gruel called "atole" is also much used, and some sorts of corn bread have a limited consumption. It is because of the fondness for the tortilla that our corn meal finds but little acceptation here. Indeed, there was an idea among many that our shelled corn would not make as rich and palatable a tortilla as that grown here, but I believe experience has shown to the contrary.

The figures which follow are for the border ports of Nuevo Laredo, Piedras Negras (Ciudad Porfirio Diaz), Ciudad Juarez (El Paso), and Nogales. Some corn came in at Matamoros and at Gulf and Pacific ports of which I have no data. To show the rise and fluctuations of this traffic I give the data monthly for the fourteen months ended February 28, 1893.

Imports of corn at border ports.

Month.	Nuevo Laredo.		Piedras Negras.		Ciudad Juarez.		Nogales.	
	Quantity.	Invoice value.*	Quantity.	Invoice value.*	Quantity.	Invoice value.*	Quantity.	Invoice value.*
1892.	*Pounds.*		*Pounds.*		*Pounds.*		*Pounds.*	
January	925,483	$13,369	1,419,352	$20,753	362,428	$31,811	.....	.....
February	443,320	6,392	464,378	4,756	2,717,763	44,952	377,400	.....
March	829,939	11,398	884,024	9,027	3,728,217	33,613	137,200	.....
April	300,980	4,540	2,506,539	25,583	8,745,719	128,937	66,200	.....
May	658,093	9,717	6,098,440	38,894	4,719,196	93,922	90,000	.....
June	1,049,754	17,860	6,071,855	59,905	2,599,751	40,865	89,300	.....
July	22,269,493	375,241	10,255,465	106,749	4,394,794	209,535	1,007,840	.....
August	29,750,886	520,634	8,186,834	84,144	8,062,914	292,576	2,511,630	.....
September	29,700,924	510,634	23,416,439	199,725	12,405,865	313,566	883,300	.....
October	31,693,539	439,338	13,891,579	121,351	7,979,055	343,154	.....	.....
November	42,761,877	701,025	10,330,811	238,768	7,263,409	287,185	504,300	.....
December	6,721,537	103,974	2,069,668	14,596	3,663,002	47,266	2,080,980	.....
1893.								
January	12,339,650	194,030	6,551,376	66,425	4,223,366	61,050	1,796,700	.....
February	106,106	1,921	522,236	5,234	948,319	14,641	215,750	.....
Total	179,551,581	2,910,073	92,668,996	995,910	71,813,798	1,943,073	9,760,600	$153,381

*In United States coin.

Altogether this is 353,794,375 pounds (6,317,757 bushels), valued at $6,002,437 in United States coin.

Reducing the pounds imported at Nuevo Laredo gives 3,206,278 bushels. The average invoice price stated in the import documents at Nuevo Laredo is 91 cents per bushel.

Now, the cost of this corn at shipping points in Kansas, Nebraska, Iowa, and Texas during 1892 varied as follows:

During the first half of 1892 corn north of Texas cost from 33 to 35 cents per bushel; in the latter part of 1892, from 43 to 48 cents; mixed corn, 3 cents less. A fair average for the whole period is 40 cents per bushel. During the second half of 1892 Texas corn cost from 47 to 50 cents and for

the remainder of the time from 39 to 44 cents. There was little or no Texas corn bought during the first half of the year. It will be fair to average the cost of the Texas corn at 45 cents. To get the border cost we must add the freight from shipping point to Laredo. On corn north of Texas the rate was about 40 cents per 100 pounds in carload lots, or, say, 23 cents per bushel. Texas corn rates were about 23 cents per 100 pounds, or, say, 13 cents per bushel.

It is not possible to calculate the exact amount received respectively from Texas and from points beyond, but a fair and conservative estimate is believed to be 1,000,000 bushels from Texas and 2,206,278 bushels from Kansas, Nebraska, and Iowa. Assuming this to be correct, the freight cost on this corn from shipping point to Laredo, Tex., was as follows:

On 1,000,000 bushels from Texas at 13 cents	$130,000
On 2,206,278 bushels from Kansas, etc., at 23 cents	507,444
Total	637,444

The average price of the estimated 2,206,278 bushels from points north of Texas I have given at 40 cents, or a total of $882,512; that of the 1,000,000 bushels from Texas at 45 cents, or $450,000. This gives a total value of $1,332,512. Adding cost and freight, we have the following:

Texas:		
1,000,000 bushels at 45 cents	$450,000	
Freight at 13 cents	130,000	
		$580,000
Beyond Texas:		
2,206,278 bushels at 40 cents	882,512	
Freight at 23 cents	507,444	
		1,389,956
Total		1,969,956
Cost of purchase, commission, etc., at 10 per cent		196,996
Grand total		2,166,952

This would be about 67 cents per bushel, whereas the declared value is given in the table as 91 cents.

At Piedras Negras 1,654,803 bushels were imported. This was purchased in Texas and in States to the north about as follows: Texas, 404,803 bushels; beyond Texas, 1,250,000 bushels. The cost and freight were as follows:

Cost:		
From Texas at 45 cents	$182,161	
From beyond Texas at 40 cents	500,000	
		$682,161
Freight:		
From Texas at 13 cents	52,624	
From beyond Texas at 23 cents	287,500	
		340,124
10 per cent for expenses		102,229
Total		1,124,514

This is over 67 cents per bushel—a trifle higher than that given in the table.

At Ciudad Juarez (El Paso) the imports were 1,282,389 bushels. This practically all came from points other than Texas or can at least be classed at the 40 cents price. The cost and freight were:

First cost	$512,956
Freight to border at 23 cents	294,949
10 per cent for expenses	80,791
Total	888,696

This is about 69 cents per bushel, as against $1.50 as given in the table.

Nogales imported 174,296 bushels. This cost probably 50 cents per bushel at shipping point, the cost and freight being as follows:

Cost	*$87,148
Freight at about 30 cents	52,289
10 per cent for expenses	13,944
Total	153,381

To handle this large extra freight there are only three lines—not counting the Sonora road, where only a small amount was received. These made a special low rate from the border to the important interior cities of San Luis Potosi and city of Mexico of $10 per metric ton of 2,204.6 pounds, or $8 per net ton (in Mexican coin). The present rate is from $14 to $17 per metric ton.

The greater portion of this corn went as far south on the National as San Luis Potosi, on the International as Torreon, and on the Central as Aguas Calientes, Zacatecas, and the city of Mexico. While considerable was left in the more sparsely settled sections to the north, it will be fair to treat all these imports as earning the full freight rate to the interior, because as much was carried to districts beyond as was stopped before reaching those points. In round figures these were 354,000,000 pounds, or 177,000 net tons, at $8. This would give a freight bill of $1,416,000, divided among the various roads as follows:

National	$720,000
International	370,000
Central	288,000
Sonora	38,000
Total	1,416,000

The total cost at destination in Mexican coin was:

Declared invoice value in United States coin	$6,002,437
Freight to border	1,324,806
Premium to Mexican coin, 45 per cent	3,297,259
Freight from border	1,416,000
Commissions, etc., at 10 per cent	1,204,050
Total	13,244,552

* I did not get the values of the entries at Nogales—only the amounts; so estimate them as above.

The import of corn is risky. There are delays, especially in such a rush; weevil will get in; and damage is done by rain and sun. Besides the inevitable losses by these causes and leakage, there were naturally many others which will make my total of the fair net wholesale cost at the principal interior markets not less than the figures given above. Large quantities were sold at cost by municipal and State boards, but much was also taken by buyers who needed larger amounts than the juntas would sell to one person.

It was a touching sight to note the crowds of hungry poor waiting their turn for the daily or weekly *almud*—about a peck—which the falling off in work and increased price, even when sold at cost, made it so difficult for them to purchase. Prompt and vigorous measures were taken by the Federal and State governments to have the supply well distributed and sold to the very poor at cost or at a very small margin; but, in spite of all efforts, distressing delays occasionally occurred.

In this report I have not given account of the corn brought in at Matamoros or at Gulf and Pacific ports. It is not too high an estimate—indeed, quite a conservative one—to calculate the local cost in Mexican money of our corn imports at these unreported places at nearly $2,000,000 and the total for the whole country for the fourteen months at $15,000,000. This is, of course, an important item for our producers and for the railways which carried it. But it is of more vital importance, and a most serious burden, for Mexico to lose that much of her own principal food supply and to have to send abroad that much of her own money to pay for it.

In a report dated July 25, 1892, I urged that our people, then collecting for Russia, should donate 1,000 carloads of corn to relieve the distress among the very poor in our next-door neighbor to the south. Should the crop fail again this year, as now seems quite possible, I trust that from an abundant harvest we may feel disposed to make such a national expression of our sympathy.

WARNER P. SUTTON,
Consul-General.

NUEVO LAREDO, *April 18, 1893.*

BOHEMIAN GARNETS.

The beautiful garnets of Bohemia are known all over the world. Garnets are found in many countries, but none compare in color or brilliancy with the rich red stones of Bohemia.

Garnets have served for centuries to furnish many nations with cheap adornment. In Bohemia, where every village maiden seeks to deck herself with some kind of jewelry, garnets, topazes, amethysts, and other stones of small value have long been popular.

The celebrated baths of Bohemia were no doubt largely influential in creating an export trade in this article. Visitors to Carlsbad, Franzensbad, and Marienbad were attracted by the beautiful display of jewelry exhibited

in many shop windows, and the souvenirs carried back by the guests to their homes caused a demand which has increased until garnets form no inconsiderable article of export.

At the present time there are in the Bohemian garnet industry about 3,000 cutters and nearly 100 borers, employed in about five hundred shops. Then there are professional garnet-hunters, middlemen, merchants, etc.—altogether, perhaps, 9,000 to 10,000 persons in Bohemia earning their bread from this industry.

Garnets are found mostly in the Bohemian Mittelgebirge, especially near Lobositz, Trebanitz, Triblitz, Laskonitz, Chrastow, and Nelluk.

Mining for garnets is very simple. The earth is removed until the stratum containing garnets is reached. Unless this stratum is very rich, the excavation is not deep, and a shaft and galleries are seldom required. The earth is then washed and the stones sorted through a sieve.

The cutting is done in Prague, Revensko, Semil, Sobatka, and Lomnitz, though the principal place is Turnau, near Reichenberg, where there is also a technical school for gem-cutting and goldsmiths' work.

Boys who have graduated from the *Bürgerschule* are admitted to this technical school, where they are taught drawing until they can draw from models which are chosen to develop taste. I saw boys of 15 years making drawings in colors, so finely done that they looked like prints. After a certain degree of skill is reached, the pupils are encouraged to undertake original designing. Certain pupils devote themselves to engraving, while others are taught the goldsmiths' art. Working after the best models of classical designs, very chaste and beautiful work is turned out in cutting, engraving, and setting.

Garnet-cutting differs little from the cutting of other precious stones. An expert places the raw stone upon a leaden anvil and with a leaden hammer removes all superfluous or faulty parts, breaking the stone always in the direction of its cleavage. The stone then passes to the cutter. The machinery used by the cutter is very simple. A horizontal disk of lead smeared with emery paste, which revolves upon a table, is turned by a hand wheel. The garnet is held upon the disk until a flat surface is produced. Then this flat surface is fastened with cement to the "kittstock," a piece of wood shaped like a thin cigar. An apprentice now takes the stone and by means of the revolving disk shapes it or "rounds" it. It is now ready to have the facets cut. In order to produce facets of equal size, shape, and angle a so-called "quadrant" is used. This quadrant holds the "kittstock" on the revolving disk at any desired angle and admits of its being turned so that several facets may be cut. After the top of the stone is cut, the cement is softened over a lamp, the stone reversed, and the cutting completed. The gem then passes to the polisher, who treats it in a similar manner on a disk made of copper, tin, or bronze, smeared with a paste made of rotten stone instead of emery. Round or half-round, smooth stones are polished on wooden disks and are the work of especially skillful hands. They are generally used for the centers of larger pieces of jewelry.

Garnets are sorted with sieves and are sold by the "Loth," or 16⅔ grams. They are classified as "sechzehner," "zweiunddreissiger," "achtziger," "hunderter," etc., signifying that it takes sixteen, thirty-two, eighty, or one hundred to make a "Loth."

A large Bohemian garnet is a rarity and very expensive. Large stones are found in great numbers in the Tyrol, but they are inferior in fire and hardness. In fire they become black and do not recover their color when cooled, as the Bohemian garnet does.

These stones are also imported from India, Ceylon, Greenland, Asia Minor, Arizona, and Australia; but they are inferior to the Bohemian garnet, except in size, though the Arizona garnet occasionally compares favorably with the Bohemian gem.

There are various shades of garnets—violet, yellow, blue, green, and even black. The last, called melanite, is used for mourning jewelry. The green, or gooseberry stones, are prized more for their rarity than for their appearance. The finest garnet is always the deep-red, sparkling, Bohemian stone with its perpetual fire. The Indian stones are called almandine. Upon looking through them their color is seen to be an approach to the amethyst color. Cape rubies (so-called) are nothing but garnets.

Up to the end of the last century the Bohemian goldsmith knew of but one way to set garnets. Upon a metal base were soldered narrow strips of serrated metal; these teeth were then bent over to hold the gem in place. From Oriental and Italian jewelry the Bohemians learned the Pavé method, in which a hole is bored for each stone. About forty years ago a Prague jeweler soldered to the metal base little pins, between which he fastened the gems. This proved not only to be durable, but allowed the utmost variation of form, so that the invention may be considered the foundation of the present industry.

JNO. B. HAWES,
Consul.

REICHENBERG, *March 17, 1893.*

THE LIVERPOOL OVERHEAD ELECTRICAL RAILWAY.

The Liverpool Overhead Electrical Railway was formally "opened" on February 4 with appropriate ceremony by Lord Salisbury. It might more properly be said to have been "dedicated" at that time, for certain details of management, etc., still remained to be completed before the road could be opened for public traffic.

It is constructed along the dock quays for over 7 miles, and will supply a long-felt need of rapid transit between the docks and the business center of the city.

The chairman, Sir W. B. Forwood, in opening the proceedings, stated that it was the first railway constructed in Europe which for its entire length

was built upon an iron viaduct, crossing streets without in anyway interfering with the traffic; and that it was the first time that electricity had been transmitted from a central station on a railway system 7 miles in length, and the first time, also, that it had been applied directly to the traction of a full-sized railway system. He said it was the first time that a railway had been worked by electric automatic signals, and he thought they might justly claim that it was the real beginning of electric railways. It was remembered with just pride that the enterprise of Liverpool men led to the construction of the Liverpool and Manchester Railway, the forerunner of steam locomotion, and the present undertaking may well be considered the forerunner of electric railways.

The construction of this road was begun in the winter of 1889. Its total cost, including equipment, is something over $400,000 per mile. In its construction nearly 25,000 tons of wrought iron have been used.

Into cast-iron sockets imbedded in and bolted to masses of concrete forming the foundations channel-iron columns are grouted, supporting plate-iron girders that carry an iron flooring upon which the "permanent way" is laid. Generally the spans are 50 feet; but some are 100 feet, with bowstring girders, and others with tilting bridges and an ingeniously constructed swing bridge worked by hydraulic power at the only dock entrance which the railway crosses. Nearly the entire line was completed without the use of scaffolding and with very little interference with the surface traffic. After the first spans were in place at the north end, each succeeding span was put together at that end and transported over the completed spans to its place. The full description of this operation is interesting, as is that of the manner of constructing the floor. The floor, known as "Hobson's arch-plate" system, was first used on this railway and is now extensively used elsewhere. It is very light and strong; it can be made and erected with great rapidity and economy; and it is quite water-tight and remarkably noiseless under traffic as compared with other forms of continuous iron floors. It has also a neat and well-finished appearance both above and below. It was designed and patented by Mr. G. A. Hobson, M. Inst. C. E., of No. 28 Victoria street, London.

The "permanent way" is also of novel construction here. Longitudinal sleepers resting directly upon and keyed to the arched decking support the rails and electric conductor.

There are thirteen stations on the line, all supplied with electric light.

Electricity for the road is generated about the middle of the line at a station in which are four horizontal compound engines, each capable of 400 indicated horse power and each driving a separate Elwell-Parker dynamo. Here also are six boilers 30 by 8 feet, fitted with Vicar's mechanical stokers and an arrangement of mechanical coal bunkers, by which all handling of coal is avoided. Feed water for the boilers circulates through Green's economizers in the main flues between the boilers and the chimney, effecting a considerable saving in fuel.

When generated, the current is sent along eight thick underground wires, capable of transmitting 2,000-horse power of electricity, to the steel conductor, which is placed on porcelain insulators, supported upon cross timbers, between the rails of each line on the railway. Hinged collectors of cast iron, sliding upon the conductor, make the connection between the motors carried on the passenger trains and the dynamos at the generating station. Only 5 per cent of the electricity is lost in transmission from the dynamos to the conductor. The generating plant is calculated to work a three-minute train service. Two cars compose a train. They are so coupled as to have a motor at each end of the train; and the motors are so connected as to be controlled from either end by the driver, who changes ends upon arrival at a terminus and carries with him a key, without which the motors can not be operated. The maximum speed is 35 miles per hour.

The cars are all alike, and contain compartments for two classes of passengers, and are open from end to end, on the American plan. A loaded train weighs about 40 tons. The cars are lighted by electricity, and have the Westinghouse brake, with reservoirs for the compressed air charged after each journey.

A new feature adopted on this line is the Timmis system of automatic electric signaling provided at all intermediate stations, worked by the trains themselves. The expenditure of electric energy in working these signals is said to be very small. The cost is estimated as that of a single signalman's wages for the day, making a handsome saving in the running expenses—if they work satisfactorily.

The running hours on week days are sixteen—from 5 a. m. to 9 p. m.—every ten minutes; on Sundays, from 12 m. to 7 p. m.—every ten minutes.

THOMAS H. SHERMAN,
Consul.

LIVERPOOL, *March 24, 1893.*

GRAPE-GROWING IN MEXICO.

One of the most important industries of this consular district is grape-growing. The principal variety is the "Mission" grape, an excellent table grape, which yields a superior wine. A diploma for this wine was awarded at the Paris Exposition.

From July to November these grapes are in market. No disease has ever visited either the vines or grapes of this valley, the only drawback being a shortage of water during some seasons. This was the case last year, and as a result the crop was not as large as in previous years. As near as I can learn last years' crop amounted to 80,000 baskets, or 800,000 pounds, worth $23,000.

A family of half a dozen can feed and cloth themselves here on less than $200 a year.

The grape crop furnishes a living for many families, and its failure has never been known. This industry is in its infancy, and is destined to become very large and profitable, not only on this side of the river, but on the American side, where the same conditions of soil, climate, etc., exist.

A. J. SAMPSON,
Consul.

PASO DEL NORTE, MEXICO.

RAISINS, GRAPES, AND ONIONS IN SPAIN.

RAISINS.

The weather was exceptionally fine throughout the harvesting season, and the entire crop was gathered in excellent condition, although the yield did not turn out as large as those of the previous two years, the vineyards having suffered from the severe cold at the blossoming time. The first shipment took place on the 18th of August. There was left over from the previous year 20,000 quintals, or 80,000 boxes of 28 pounds per box. The market opened for the earliest at $4 per quintal of 112 pounds, but prices quickly fell to $3 and soon afterward to $2.50. This latter price was claimed by the producers to be far from covering the cost of cultivation and delivery to the warehouses here. Such low prices and the short crop at Malaga and Almeria forced the farmers to construct extensive drying beds on the order of those existing at the former places to cure the Malaga or sun-dried raisins, or, as we call them in America, the "London layers." They were quite successful. The amount reached this way was some 200,000 boxes of 20 pounds each, most of which, having been sent to Malaga for reshipment, found a fair sale. They equal any muscatel raised in any port of Spain.

The demand for raisins from America of late has been good, and much better prices were obtained. On the 6th of this month the steamship *Bamboro* received 40,306 boxes of 28 pounds each for New York, leaving in the whole consular district of Denia, comprising fifty-four cities and towns, only 12,000 boxes, which will be disposed of before June 1. The foreign markets, especially the English, have been overstocked for the past two years with large quantities of this Denia fruit, causing a fall in prices, and in consequence a heavy loss to the producers, who sent their stock there on their own account on consignment. As the demand in America for this fruit is good, they are reshipping from London and Liverpool their surplus stock.

At this time the vineyards are looking well, and there is a prospect of a heavy crop. On account of this fact and in expectation of a lower duty on these goods, there will be a much larger trade with the United States than for some years past, and much better raisins will be sent, as the best ones have hitherto gone to England, second best to America, and the third grade to the Baltic, comprising Norway, Sweden, Denmark, and Russia. The poorer and cheaper raisins are sent to Barcelona and Malaga for distilling

purposes. Most of the raisins from here are marked "Valencia," but not a raisin is produced or packed at Valencia.

Exports of Denia raisins, crop of 1892.

Month.	United States.	England.	Other countries.	Total.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*
August	23,648	33,179	12,275	69,102
September	51,823	136,950	33,899	222,672
October	50,150	99,223	55,578	204,951
November	26,306	21,092	15,497	62,895
December	9,158	4,083	7,094	20,335
January and February	546	321	*3,232	4,099
March and April	10,074	4,000	1,000	15,074
Total	171,705	298,848	128,575	599,128

* To the Baltic, 1,740 quintals; coast of Spain, 1,454 quintals.

There were also shipments to London and Liverpool from other parts of this district amounting to about 5,000 quintals. The stock in farmers' hands was 3,000 quintals.

Exports and prices of Denia raisins from 1883 to April 22, 1893.

Crop of—	England.	France, Africa, etc.	United States and Canada.	Total.	Price per quintal, gross weight.
	Quintals.	*Quintals.*	*Quintals.*	*Quintals.*	
1883	350,790	71,036	298,693	720,519	$3.00 to $5.00
1884	182,329	76,575	172,968	431,872	4.00 to 6.00
1885	218,696	8,388	187,944	415,028	5.00 to 6.50
1886	271,315	108,978	280,316	660,609	3.00 to 5.00
1887	297,296	123,555	283,770	704,621	*4.00
1888	218,657	83,128	277,216	579,001	2.00 to 4.00
1889	238,653	34,491	293,391	566,535	*3.50
1890	347,183	147,072	372,751	867,006	3.00 to 4.00
1891	281,734	187,130	181,726	650,590	1.50 to 4.00
1892	303,848	101,149	202,131	607,128	*2.75

* Average.

GRAPES.

About 100,000 barrels and 400 boxes of grapes were shipped from Denia and Gandia between July 13 and August 24, the largest proportion on consignment to London and Liverpool; but, as the fruit in many instances was shipped improperly and in an unripe state, very low prices were obtained.

ONIONS.

About 120,000 crates of onions have been exported, principally to New York. The first cost of these goods is 30 cents per crate of 45 pounds net, free on board; freight, 20 cents; commission, 5 cents; duties, 31 cents; whole cost, 86 cents. These onions are of very fine grain, equal to any Danvers onion grown in the United States, and, if the duty were reduced to the

former rate of 10 cents per crate, there would be five times as many produced and sent to the United States as at present. They are shipped mostly in August, and arrive in America long before the onions there are ready for the market. The first cost to New York is 86 cents; after that the receiver gets a profit, the jobber a profit, and the retailer a profit, making the cost to the consumer $1.25 per crate.

RANSOM F. McCRILLIS,
Consul.

DENIA, *April 22, 1893.*

PRODUCTS OF CHANCHAMAYO VALLEY, PERU.*

The Oroyo Railroad has been completed in the past two months to Oroyo, 136 miles from Callao and 12,178 feet above sea level. Chicla, on the west side of the Andes, 87 miles from Callao, and 12,215 feet above the sea, has been the terminus of the road for regular trains for a long time. The road climbs from Chicla to the famous "Tunnel de paso de Galera," which is 15,655 feet above the sea. From Oroyo to the head of the valley of Chanchamayo, one of the most fertile districts of Peru, is a distance of about 40 miles, and the products of this valley that find their way to the coast now come on the backs of mules, donkeys, and llamas to Oroyo over rough mountain roads, which, for most of the distance, are mere paths.

COFFEE.

The crop that commands the most attention and from which the greatest profit is derived is coffee. This year the coffee crop of the valley will reach almost, if not quite, 20,000 quintals, or in the neighborhood of 2,000,000 pounds. It is selling now at $13.42 per quintal of 101½ pounds in the valley and at Lima for $17.08 per quintal. This is, however, unusually high. The crop often brings but $9.15, and has been as low as $7.32 per quintal.

The greatest difficulty encountered by the coffee-planter in this valley, and the same may be said of the agriculturist in almost every part of Peru, is that of procuring labor at the right time. The laborers on the eastern slope of the Andes are almost wholly of the Indian race, shiftless, ignorant, and unreliable, and the planter needing workmen must rely in the main upon the commanding officer of the district, who distributes labor as he pleases.

The yield of coffee depends much upon the season and the manner in which the trees or shrubs are planted, but an average yield would be from 2 to 3 pounds per tree at the fourth year after planting. The coffee is picked practically the whole year round, and laborers are paid from 10 to 20 cents in silver per arroba of 25 pounds. Twenty-five pounds of green coffee will yield from 6 to 7 pounds dried and ready for market. In years when the yield

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* The consul acknowledges his indebtedness to Mr. John B. Wilson, of the district of Chanchamayo, for the facts upon which this report is based.

is good laborers willingly pick for 10 cents per arroba. A lighter crop commands 15 cents, and an unusually light crop costs 20 cents for the picking, the price being gauged by the time required to gather it.

The best of the coffee crop is of excellent quality; but the dealers in the European markets complain of the very bad sorting, which lowers the grade of the Peruvian product. If heavy rains occur as the crop is ripening, the berry most exposed to the rain is apt to be blackened, and the failure to leave out this damaged berry is the cause of the complaint.

The planter gets a fair crop the third year after planting, but the crop of the fourth year is considered the first full crop. There are no insects in the valley that damage the plant. The only difficulty is in getting perfect seed to secure strong, healthy plants.

OTHER CROPS.

The climate is healthful and agreeable, and the soil excellent for potatoes, maize, barley, sugar cane, and fruits and vegetables of almost every variety.

The finest potato grown in Peru, known as "papa amarilla," or yellow potato, which is the favorite in Lima and Callao, is selling in this valley at 80 cents per sack of 130 pounds, and a nearly white potato of excellent quality commands a trifle less.

Barley is worth about 27 cents per bushel. Hogs are of very inferior breed. Pork and beef sell for 8 cents per pound in the market. Chickens are plentiful, but generally dear, bringing about 40 cents each. Eggs sell at from 15 to 20 cents per dozen. Corn sells for 50 cents per bushel. (American money in each case.)

Lands that have not been cultivated and which require clearing are very cheap; but the work of clearing is necessarily slow and tedious, owing to the character of the labor.

It is not probable that the Oroyo Railroad will be extended to this valley, other routes seeming to have the preference; but the roads or mountain paths leading to Oroyo are being improved, and the improvement will, it is thought, be continued each year.

The immigration during the past year and that promised for the coming year is chiefly from Italy.

A. J. DAUGHERTY,
Consul.

CALLAO, *March 29, 1893.*

ENGLISH POTTERY FOR LATIN AMERICA.

The class of goods sent from Tunstall to Latin America is of the same general style as the cheaper quality of earthenware exported to the United States, commonly known as white-granite ware. The weight, however, is somewhat heavier, and the decoration consists of a great deal of embossed

or raised work, being produced while in the clay state in plaster molds. The decoration is generally of cheap, bright, and flashy style. There are still large quantities of what is known to the trade as dipped and sponged ware shipped to these markets. This ware was in past years very generally used in the United States, but is now very seldom seen.

The cost of producing the ware is the same as that of the same class for the United States market, and the selling price is also about the same. The selling price is not quite as stable as is the case with the United States market, but varies according to circumstances—sometimes higher, rarely lower, but averaging the same.

W. BURGESS,
Consul.

TUNSTALL, *January 28, 1893.*

HOURS OF LABOR AND WAGES IN THE KNIFE TRADE.

SHEFFIELD.

Those working in this trade are almost invariably employed on piece-work, so that it is impossible to give any definite figures as to their hours of labor.

The factories in which the cutters, or fitters, and women work are open for twelve hours per day from Monday to Friday and six hours on Saturday. The wages earned by cutters, or fitters, vary considerably with the skill of the operatives and the class of goods to be manufactured, and $3.65 and $9.73 per week may be taken as limits, except in special cases. Cutters and fitters may generally spend as much or as little time as they think fit in the factories during the hours in which they are open.

The machinery for turning the grinders' wheels usually runs fifty hours per week, and the grinder spends such time at his wheel as he thinks fit. His wages vary from $6.08 to $9.73 per week.

The forger is generally paid for the work done by himself and his boy assistant from $9.73 to $14.60 per week, out of which he pays his assistant about $1.82.

Girls and women are usually paid by time, and for a week of fifty hours receive from $1.22 to $3.65.

The hours during which the male operatives work depend largely upon the state of trade, and the above figures as to wages denote moderate prosperity. Considerably larger amounts are at times earned under pressure, and bad trade may reduce the amount to nothing.

The occurrence in the town of cricket and football, foot races, and other sports have considerable influence upon the attendance of the men at their work. Monday is generally observed as a holiday, Tuesday as a "short day," and full time is put in on Wednesday, Thursday, and Friday and half of Saturday.

The men working by time in any of the above branches of the trade would probably be paid from $6.08 to $7.29 per week of fifty hours, but the better class of workmen prefer piecework, by means of which they can obtain larger pay.

G. A. BRANSON,
Vice-Consul.

SHEFFIELD, *February 1, 1893.*

SOLINGEN.

Work begins usually at 6 o'clock in the morning and lasts until 7 at night, with the following intermissions: Half an hour at 10 for the so-called second breakfast, one hour at noon for dinner, and half an hour at 4 for afternoon coffee—altogether an intermission of 2 hours.

From the following brief description of the work done by the several classes of workmen engaged in this trade it will be seen that a pocketknife does not undergo the several processes of manufacture in one establishment as a general thing. The employer or manufacturer issues his orders to the workmen or small manufacturers who make the several parts of the needed article, furnishing them in every case with the raw material. Many of these workmen make only special parts of a knife, and usually do not work on anything else. Some forge blades; others grind them; others again make the shells, linings, bolsters, etc. Many of the workmen rent rooms in large establishments, expressly built for such purpose, supplied with the necessary water or steam power, while others work in their own houses or cottages. Many have their whole family at work, each member doing just one part. Even small children not yet at school help in some way. The larger the family the greater are the workman's earnings. If the family is small, the father has to hire some help, which decreases his income.

On a certain day of the week, usually on Friday, the man or his wife takes the product of their labor to the manufacturer, who receives the goods and pays for them, deducting so much as may be necessary for faulty or defective goods or any advances which he may have made to the laborer when issuing his order.

There are also large factories for the manufacture of cutlery, where all kinds are completely finished and made ready for the market.

The earnings of skillful workmen are in general sufficient to support them, with their families. Considering the low wages which are usually paid in Germany and the very simple degree of intelligence and education required for their work, wages are fair. There are many intelligent, sober men who save something and improve their financial standing, while there are many others who hardly scrape together enough money for their own support. There is much complaining when work is scarce, and, on the other hand, strikes are not infrequent when work is abundant.

The annexed table will show the approximate earnings of the workmen and their production, so far as they can be indicated by a few figures, taking into consideration the many sizes and qualities of the article in question.

Approximate earnings of operatives and their production in the manufacture of pocket cutlery at Solingen.

Description.	Rates paid.			Weekly production.	Average cost of labor per 100.	Weekly earnings.		
	Per day.	Per 100 pieces.	Per dozen.			Highest.	Lowest.	Average.
Blades:				*Pieces.*				
Forgers—								
Best		$3.00		300 to 6,700	$3.00	$10.00	$5.00	$7.50
Lowest		.15			.15			
Average		2.00			2.00			
Hardeners—								
Best	$0.75			1,200	1.75	4.50	3.60	3.60
Lowest	.60			1,800	.85			
Average	.60			1,500	1.20			
Grinders*—								
Best				500	7.00	10.00	6.00	7.00
Lowest				2,000				
Average		7.00		1,000				
Linings and springs:								
Best	.75			200	1.20	4.50	3.60	3.60
Lowest	.60			500				
Average	.60			300				
Pocketknives:								
Messerreiders—								
Best		25.00		25 to 600	25	5.00	3.60	4.30
Lowest		$2.00 to 3.00			$2.00 to 3.00			
Average								
Finishers*—								
Best			$0.50	400		10.00	6.00	8.00
Lowest		.20						
Average			.20					
Packing men						4.50	3.60	3.60
Cleaning girls						1.80	1.00	1.50

* Expense for rent of 70 cents to $1.50 per week per person.

Blade-forgers work in their own houses. They receive the raw material (Bessemer cast steel, German steel in various qualities, and English cast steel) from their employers, but possess their own trip hammers and dies. Blades are paid for by the hundred—from 15 cents to $2 or $3 per hundred.

The forged blades are then provided with eyes, punched, fitted to the handle, and given to the hardener. The hardening is to a great extent done by day-laborers, who are paid 60 to 75 cents per day. A good workman can harden from two to three hundred heavy blades in a day. Blades are generally hardened in water; but the better qualities, such as are made of English steel, are hardened in oil.

The hardened blades are then given to the grinders. These grinders rent their workshops, together with steam power, for which they pay from 70 cents to $1.50 per week per person. Formerly water power was much in vogue, but its use is constantly on the decrease, steam power being much preferred because more reliable. Grinders are paid by the hundred and earn from $4 to $10 per week.

Linings and springs are made by day-laborers, who earn from 60 to 83 cents per day.

Bolsters are cast in various qualities and cost from 60 cents to $1.20 per kilogram.

Shells (mother-of-pearl, etc.) are cut by workmen who are paid by the hundred, according to the size and quality. The raw material is bought in Sheffield either directly or through commission agents.

The several parts of the knives are put together by the so-called "Messer-reiders." This part of the work, as a general thing, is entirely a house industry, and is rather poorly paid. If the laborer's family is not large enough, it is assisted by journeymen and apprentices. A "Reider" who is working alone can not earn more than $3.60 to $4.30 a week.

Knives thus put together are given to the finishers, who work, as do the grinders, in rented workshops, though formerly this part was also a house industry. They earn from 8 to 50 cents per dozen, or from 20 cents to $1.50 per hundred, for common goods, and make as much as $10 per week.

Grinding and finishing are very unhealthy occupations, on account of the large quantities of particles filling the air in the workrooms. Although exhausters are in use, still they are not sufficient to remove these.

When the finisher has done his work, young girls of from 14 to 16 years do the cleaning and day-laborers the packing.

FRANK HESSENBRUCH,
Vice-Consul.

BARMEN, *January 28, 1893.*

REVOLUTION IN ELECTRIC HEATING.

A discovery so original and so wide in its practical application that it is believed to open a new and important chapter in the use of electricity for heating purposes has recently been announced from Brussels and tested at Berlin. The invention is the joint achievement of two Belgian scientists—Messrs. Lagrange and Hoho—who a few days ago applied to the imperial German patent office for patents on a new method of heating, melting, and refining metals by means of electrical heat. The means, as designated in their claim, were so simple and the results as therein described so incredible that the patent-examiners demanded that before issuing the patent a practical demonstration of the process should be made in their presence. The matter was referred to an eminent and disinterested electrical expert at Berlin, who made the first essays in his private laboratory and was so delighted with the result that he asked by telegraph permission of the inventors to repeat the demonstrations before the Electro-Technical Society at the German capital. Permission was readily granted, and the experiments were performed before a group of expert electricians with brilliant success. From the account given by one of the experts who was present at these demonstrations and from various other sources the following report of the new process has been derived.

The apparatus consists of a glass or porcelain vase, which may be of any size conveniently adapted to the purpose, provided with a lining of lead connected with a strong conductor of positive electricity. The vase is filled to three-fourths its capacity with acidified water. A pair of iron tongs with insulated handles is attached by a flexible conductor to the negative pole of an electrical current generated by an ordinary dynamo. With this simple and inexpensive equipment the following phenomenon is produced.

The electrical current having been switched on, a bar of wrought iron or other metal is taken up with the tongs and plunged into the water within the vase. Immediately the water begins to boil at the point of contact; the immersed portion of the iron rises quickly to a red, then to a white, heat, and emits a stream of brilliant white light. In a few moments the heat becomes so intense that the iron melts and falls off in bubbles and sparks, leaving a clear, glowing surface in perfect condition for welding. The heating process has been so rapid that neither the water nor the end of the bar held within the tongs have been more than slightly warmed, and, the current being switched off, the bar, with its submerged end glowing, may be readily held in the naked hand. If, instead of a bar of metal, a stick of carbon is used, the heat in a few minutes produces detached fragments of amorphous carbon, which proves scientifically that a temperature of 4,000° Celsius has been developed. The rapidity of the heating and the limit of temperature to be reached are easily and accurately governed by the strength of the current employed, so that the whole process is under the absolute control of

the operator. During the recent experiments at Berlin the measuring instruments registered a tension of 120 volts and an energy of 220 ampères. It was estimated that fully 50 per cent of the current was directly utilized as heat, whereas the practical limit of such utility has not hitherto exceeded 20 per cent. It is stated by the inventors that by employing a still stronger current a temperature of 8,000° Celsius has been developed. The mechanical importance of this fact will be apparent when it is remembered that this is a degree of heat nearly three times greater than that required to extract iron from the ores, the most refractory of which fuse at about 2,700°.

Divested of all merely technical phraseology and reduced to its simplest terms, the process under consideration may be explained as follows: One of the well-known effects of electricity is to separate compound fluid bodies through which it passes into their primitive elements. The current, passing through the tongs and metallic bar into the water, decomposes the latter into its two gaseous elements—oxygen and hydrogen. The oxygen is attracted and gathered on the relatively large surface of the lead lining and produces no noticeable effect. The hydrogen, on the other hand, gathers around the immersed portion of the bar; and, as this has a comparatively limited surface area, it is immediately surrounded with a close envelope or jacket of hydrogen, which, being a bad conductor of electricity, creates a powerful resistance to the passage of the current and thus develops the heat which causes the bar to glow and melt. It is merely an application of the well-known law that friction or resistance to the passage of an electrical current causes heat, and the apparent paradox of a piece of cold metal plunged into cold water rising rapidly to a melting glow is as simply and clearly explained as the incandescence of a platinum coil in a vacuum bulb.

It is as yet too early to form any definite estimate of the practical range of this discovery or its commercial value. Thus far it has been applied experimentally only to the welding of various metals, but with such success that it promises, in that special field, to inaugurate a complete revolution. Hitherto electrical energy transformed into heat has found but few successful applications in industry. For welding purposes it has been not only too expensive for general adoption, but it has entailed certain technical defects which have proven serious and difficult to overcome. As the temperature of the electrical furnace has been heretofore difficult to govern, the iron has often been overheated to the point of partial melting. This seriously affects its quality, as on cooling the metal does not resume its original fibrous texture, but becomes crystalline, with an important loss of tensile strength. Another disadvantage has resulted from the fact that iron, when used for practical purposes, is rarely or never entirely pure, but contains more or less carbon. Steel and wrought iron contain less carbon than cast iron, and when heated in the ordinary electrical furnace, where the heat is generated by the passage of the current between two carbon points, particles of loose carbon which have been detached by the current combine with the hot metal and convert it into something analogous to cast iron.

All these difficulties are apparently completely mastered by the newly discovered process above described. For welding purposes, it is pronounced perfect. The clean envelope of hydrogen which surrounds the heated metal prevents oxidation, and the welding surface is left free from the effects of sulphur and other impurities, which are always present when iron is heated by a coal fire in an ordinary forge. The quality which entails the largest possibilities, and which has been as yet only superficially investigated, is the capacity of this process to heat quickly and to any desired temperature the end or submerged surface of a mass of iron while the remainder of the mass is left cool and comparatively unaffected by the heat. It is believed that this may lead to important results in the hardening and tempering of armor plates and other objects in iron and soft steel in which great resistance to penetration or abrasion by friction is requisite, while preserving the interior tough and fibrous to resist concussion or strain, as in many parts of machinery. At Essen, Messrs. Krupp & Co. are experimenting with it in the hardening of steel cannon; and it is believed that in chemistry this method of producing an intense and easily regulated temperature may lead to the successful manufacture of diamonds, rubies, and sapphires through the production of the larger forms of crystallized carbon.

Whether it is applicable as an electrolytic process to the reduction of metals seems to be disputed. One account claims that by it the cost of refining gold, platinum, copper, nickel, and even iron will be reduced 80 per cent, while other authorities assert that, though metallic oxides may be successfully reduced by this method, no other foreign substances contained in the metal will be eliminated by it. In any event, however, the discovery of the principle that has been already demonstrated must open a wide and interesting field of research to the electricians of all countries.

FRANK H. MASON,
Consul-General.

FRANKFORT, *March 31, 1893.*

CHINESE TELEGRAPH SYSTEM.

The Chinese land telegraph line has been joined to the Russian system. Messages can now be sent to any part of the world from any telegraph station in China.

Since this connection was made the cable companies have added 15 per cent to their charges, but messages may be sent over the Chinese lines at the former rate—$2 per word—the cost of transmission across the Atlantic being added.

The Chinese system now reaches Helampo, in the north, where the connection is made with the Russian lines; Aichow, in Hainan, in the south; Wenchuen, in Kirin, in the northeast; Takao, in Formosa, in the southeast; Suchan, in Kansu, in the northwest; and Zengyueh, close to the Burmah frontier, in the southwest. The only province which is not reached

by telegraph is Hunan, which still remains opposed to all foreign innovations.

There are four stations in Anhui, eight in Chekiang, eleven in Chihli, four in Korea, nine in Fukien, ten in Formosa, three in Heillungchiang, one in Honan, seven in Hupeh, six in Kansu, four in Kiangsi, four in Kirin, nine in Kuangsi, thirty-four in Kuangtung, two in Kuischow, three in Shansi, fourteen in Shantung, two in Shensi, six in Shingking, six in Szechuan, and ten in Yunnan, or one hundred and sixty-seven in all.

The service is rapid and satisfactory. Parties sending messages have the right to designate whether they shall go over the cable lines or the land lines.

CHARLES DENBY,
Minister.

PEKING, *March 4, 1893.*

RUSSIAN TANK PETROLEUM IN JAPAN.

The arrival at Hiogo of the first oil-tank steamer with full cargo of Russian oil is an interesting event in the history of the petroleum trade in Japan. The *Couch*, a new steamer of 3,555 tons, carrying 4,824 tons of oil in bulk, arrived on the 10th instant, and discharged her cargo on the following day by pumping it directly into steel tanks located on Wada Point, about 3 miles distant from the settlement. The vessel is supplied with two powerful pumps capable of discharging 500 tons an hour. A large fan, located in the center of the ship, is used for ventilation and for expelling any gases that may remain after the oil is taken out. The oil compartments are separated from the engine by a compartment filled with water. All the appointments of the steamer are well designed for carrying oil in bulk with the least possible danger and for discharging it with great rapidity.

It is difficult to estimate what effect this new departure will have upon the petroleum trade of Japan. The promoters of the scheme have claimed that the cheap Russian oil laid down in bulk would ultimately drive the American case oil from the market.

There is evidence, however, that they are not now as sanguine of success as they were at first. At Singapore, where large outlays have been made in the construction of tanks, it is said that the prospect is not encouraging. At Yokohama and Nagasaki the authorities have refused to permit the construction of tanks, and here remonstrances are being made by fishermen and junk-owners against storage in bulk at Wada Point. The problem of distributing the oil among consumers in the interior has been found a more difficult one than was first supposed. The original idea of using small steel drums for this purpose has, it is said, been abandoned. About 60,000 old cases, containing two tins each, have been collected, the marks removed, and the cans stenciled with the mark of the importers. As the number of sound cans available is limited, it is evident that if the tin cans, which are

so much preferred by the Japanese, are to be used by the new company, they will have to import tin and erect expensive machinery for their manufacture.

For several months past, in consequence of the expected arrival of the tank steamers, very few sales of American oil have been made. The dealers are waiting to see what effect the introduction of bulk oil will have upon the market. Whatever the result, it is not likely that the Standard Oil Company will yield their present position without a contest. The acknowledged superiority of the American oil can not fail to give it a great advantage over all competitors in this market.

E. J. SMITHERS,
Consul.

HIOGO, *March 28, 1893.*

CARELESS PACKING OF AMERICAN KEROSENE.

In every consignment of kerosene recently received at Maracaibo there has been much loss by leakage, notwithstanding the most careful storage and handling.

The American shippers, desiring to reduce as much as possible the gross weight, upon which duties are levied in this country, have gone to extremes. The kerosene is packed in tins of 5 gallons each, two of them being stowed in a tight-fitting wooden box. The tin now in use is much too thin, and the wooden boxes are of light material fastened by too few nails. The result is that many tins arrive here empty and others require resoldering, while the boxes are practically in pieces.

A great proportion of the kerosene does not remain in Maracaibo for consumption, but is sent to various points in the interior of both Venezuela and Colombia.

Before this can be done both tins and boxes must be thoroughly repaired, which expensive process may have to be repeated several times before the oil arrives at its final destination, thus increasing its cost.

It is true that at various times I have advised exporters to reduce weights as much as possible, in order to avoid the payment of unnecessary duties; but I did not intend that they should sacrifice strength and durability in packing their merchandise. The leakage of kerosene on board ship is apt to injure other cargo, as happened a few weeks ago at this port, where thirty bags of flour were found saturated with oil.

The complaint among importers here is universal, and I strongly recommend to our shippers the use of a heavier and more carefully soldered tin for the inside cases of kerosene, while the containing boxes should be of thicker wood and more generally supplied with nails.

E. H. PLUMACHER,
Consul.

MARACAIBO, *April 10, 1893.*

TELEGRAPH LINES IN PERU.

Consul A. J. Daugherty, at Callao, transmitted, under date of April 24, 1893 (report received May 15), the following information furnished him by the Government minister of police and public works in regard to the length of various telegraph lines in Peru and the charges for messages:

Length of lines.

Lines.	Length.
	*Kilometers.**
Sama to Locumba	50
Locumba to Moquegua	115
Moquegua to Ylo	111
Ylo to Mollendo	111
Mollendo to Quilca	99
Total	486
Mollendo to Mejia	14
Mejia to Ensenada	6.43
Ensenada to Tambo	9.26
Tambo to Posco	11.46
Posco to Cachiendo	14.88
Cachiendo to La Joya	30.98
La Joya to San José	16.9
San José to Vitor	18.91
Vitor to Quishuarani	12.48
Quishuarani to Uchumayo	16.49
Uchumayo to Tiabaya	9.25
Tiabaya to Tingo	8.05
Tingo to Arequipa	3.22
Total	172.31
Arequipa to Yura	28.96
Yura to Aguas Calientes	12.87
Aguas Calientes to Pampa de Arrieros	28.97
Pampa de Arrieros to Canaguas	22.92
Canaguas to Sumbay (puente) or bridge	22.13
Sumbay (puente) or bridge to Vincocaya	38.61
Vincocaya to Lagunillas	49.89
Lagunillas to Santa Lucia	33.78
Santa Lucia to Maravillas	11.67
Maravillas to Cabanillas	20.91
Cabanillas to Juliaca	33.39
Juliaca to Puno	46.66
Total	350.76
Juliaca to Pucara	56.33
Pucara to Santa Rosa	75.67
Santa Rosa to Sicuani	69
Sicuani to Checacupe	51
Checacupe to Urcos	45
Urcos to Cuzco	45
Total	342
Ferrinafe to Lambayeque	10.67
Lambayeque to Chiclayo	11.33
Chiclayo to Eten	22
Eten to Pacasmayo	76.44
Pacasmayo to Chocope	80.56
Chocope to Truxillo	44
Truxillo to Salaverry	11.48
Salaverry to Chimbote	149.52
Chimbote to Casma	88
Casma to Huarmey	88.23
Huarmey to Pativilca	110.77
Patavilca to Supe	11
Supe to Huacho	33.72
Huacho to Chancay	65.28
Chancay to Ancon	33
Ancon to Lima	33
Lima to Canete	161
Canete to Chincha	73.33
Chincha to Pisco	39.67
Pisco to Ica	78
To Callao from Lima, two lines of 13 kilometers each	26
Total	1,247
Paita to Piura	77
Special lines.	
Central Railroad of Peru:	
Callao to Lima	13.05
Lima to Santa Clara	15.95
Santa Clara to Chosica	25
Chosica to Tormamesa	21.08
Tormamesa to Surco	14.01
Surco to Matucana	12.94
Matucana to San Mateo	24
San Mateo to Chicla	13.97
Chicla to Casapalca	14
Casapalca to Galera	17
Galera to Yauli	22.02
Yauli to Oroya	26.98
Lima to Ancon	33
Total	253
English railroad (between Lima, Callao, and Chorillos one line)	30
Grand total	2,958.07

* 1 kilometer = 0.62135 mile.

Telegrams from one to ten words (including direction) pay 40 cents, and 4 cents for each additional word.

The telegraphic branch of the service is in charge of the minister of police and public works, and the management is composed of the following staff: One director-general, one chief of lines, one general accountant, one secretary, one chief of telephones, one mechanic, two administrators. The work of the office is done by telegraphers of the first, second, and third classes, according to the category in which the office is classed. There are also repairers of lines of first, second, and third class.

There has just been completed a telegraph line between the capital and the town of Obrajillo, a distance of 101 kilometers, which, added to the lines mentioned before, gives a total in Peru of 3,015.95 kilometers, or 1,874 miles.

COD FISHERIES OF NORWAY.

According to the recently published official statements, the complete returns of the winter season's cod fisheries in this country for all districts, excepting Finmarken, show a total yield of 55,000,000 fish. Of this quantity the district of Lofoden (inside) alone has contributed 27,000,000 and Vesteraalen (outside of Lofoden) 8,000,000, the remaining 20,000,000 coming from the different places in the south as far down as the coast of Stavanger, where more than 3,000,000 were taken.

By the accompanying table it will be seen that the year's catch at Lofoden exceeds that of last year by more than 10,000,000 fish, and that the other products—oil, liver, and spawn—are also larger than the average for the past four years.

Statistics of the Lofoden cod fisheries for the years 1889–'93, commencing in the middle of January and ending April 14.

Year.	Number of codfish.	Steam refined oil.	Liver and other kinds of oil.	Spawn.
		Gallons.	*Gallons.*	*Gallons.*
1893	27,000,000	492,900	834,750	824,150
1892	16,250,000	214,650	609,500	461,100
1891	21,000,000	482,300	601,550	519,400
1890	30,000,000	442,550	1,550,250	737,760
1889	17,000,000	331,850	622,750	524,700

The fishing at Lofoden this season commenced late and was at the beginning hindered by cold and stormy weather; but after the 1st of March the weather was fine, and during the two weeks from the 11th to the 25th of March the catch was uncommonly large.

The greatest number of boats assembled at Lofoden was 6,186, with 26,683 hands, who averaged about $60 each for the season, some of the men making as high as $200 to $275.

The average price of fish at Lofoden was $4.50 to $5.25 per 100 fish, and the gross value of the whole catch there is estimated at $1,580,000, or over $500,000 more than in 1892.

The winter cod fishing at Finmarken, from Hammerfest around the North Cape and eastward to the Russian frontier, commenced this year much earlier than usual and was but lately finished, with a yield of 3,000,000. The so-called capelin fishing is still going on in this district, but, owing to stormy weather up to the 15th of April, with a poor result of only 1,300,000. This fishing, more irregular than in any of the other districts, varying from some few millions (as in 1882) up to 23,000,000 in 1880, concludes the returns for the whole country, and, when finished, will be reported in due time.

The result of the winter's herring fishing in this district turned out very unsatisfactory, only 75,000 barrels being taken. Of this amount 20,000 barrels were cured for export and the remainder either smoked or exported fresh in ice to England. In spite of their good quality and size, prices were low, giving no profits to the fishermen.

F. G. GADE,
Consul.

BERGEN, *April 29, 1893.*

AMERICAN GOODS IN BRAZIL.

The limited consumption in Brazil of goods produced or manufactured in the United States is attributable to the little attention that is given to their introduction by means of commercial travelers furnished with proper samples and price lists. European merchants and manufacturers have their representatives who constantly visit the ports and chief towns of Brazil, solicit orders with little restriction as to quantity, give long terms of credit, and pay close attention to the packing and shipment of the goods. Then, again, there are here many branch European houses, which are kept regularly posted as to any desirable change in quality or style. An American business house is a rarity in Brazil, and in the State of Rio Grande there is not one. Were American manufactures better known, they would come into use; in fact, a supremacy has already been established for certain staples.

American manufactured cotton goods, such as shirtings, sheetings, and brown drills, have a steady, though limited, sale; but the imitations and similar goods manufactured in Europe, although of an inferior quality, command the larger sale, as the consumers give more attention to price than to durability. Woolen goods and worsteds of American manufacture are unknown here. Threads come principally from England.

American carriages were the only ones used here some thirty years ago. Local builders have recently established workshops and turn out a very good article sufficient for the demand. Owing to the present high freight rates and import duties, American carriages, though doubtless the best of their

kind in the world, would cost too much to admit of their sale here. Carts and transport wagons are all built here on the old Portuguese or German plan. Canal barrows, which formerly came in large numbers from the United States, are now made here more cheaply than they can be imported.

Drugs and chemicals are not imported to any extent from the United States; but certain manufacturers of proprietary medicines send round their travelers occasionally and advertise their remedies extensively, and thus hold their own. The French are formidable opponents in this line, and the Brazilian takes kindly to anything from France. The local chemists and druggists have lately commenced manufacturing their own specifics, which readily find purchasers.

Foreign flour is imported almost solely from the United States. Baltimore brands have of late gained favor here, and the Austrian flour from Trieste has gone out of use. On the other hand, the Rio de Janeiro and local mills, which grind imported grain, furnish a fair quality and thus affect the importation of American flour. Canned goods, such as salmon, lobster, and oysters, come almost exclusively from the United States; fruits and vegetables from France and Portugal. A factory, turning out a very creditable article, has recently been established here. Borden's condensed milk was formerly used here, but during the past few years the Swiss "Milkmaid" brand has worked itself into popular favor, and is largely imported. German and English hams and bacon are preferred to the American; I can not say why. The American are the cheapest. This is also true of cheese. French and Danish butter in 1 to 4 kilogram tins finds ready sale. I have seen American butter put up in earthenware jars, but its appearance and quality were inferior. In such articles a really good quality is necessary, as with all imported articles of luxury.

Furniture is made, and made well, here. Formerly American chairs, wooden ware, and corn brooms were largely imported, but now a very good imitation is made here.

Hardware, axes, hatchets, spades, and agate ware come in fair proportions from the United States. Common kinds are of European manufacture. A wire-nail factory is now in operation in Porto Alegre, and will diminish the supplies hitherto drawn from Belgium.

Hemp and flax are not imported. Jute yarn comes largely from Dundee and Hamburg, and is made into bagging at local mills in sufficient quantity for home consumption.

Leather goods are, to a great extent, manufactured here. Boots and shoes come from England, Austria, and Switzerland. Those from America are not liked, the styles not being adapted to the taste of purchasers, as explained in a former special report. Harness and saddles are imported occasionally by wealthy parties.

Spirits are imported from France, Holland, and Germany. A little whisky comes from England; but natives prefer Cognac and gin or the white rum of the country, which is inexpensive and, as a rule, unadulterated.

California wines are unknown, and the supplies imported are furnished by France, Portugal, and, to a small extent, Italy. A considerable quantity of wine is now made in this State and finds a demand for local consumption as well as for export to the north of Brazil.

The manufacture of malt liquor is a continually growing industry, and imports are falling off from all countries. I have seen St. Louis ale in bottles here; but purchasers who prefer foreign brews buy either Bass, Strasburg, or Bavarian ales and Irish porter.

Machinery is imported direct or ordered as required. These orders are given through foreign houses and transmitted by them abroad. I know of no American agency in this State. As a rule, American locomotives and railway carriages are almost exclusively employed here. Rails and rough rolling stock for freight come from Belgium and Switzerland, some little being made here.

I have seen only one American piano here, and even that has been sent to Rio de Janeiro. European manufacturers send out their musical instruments on consignment, and Americans must do the same if they wish to make their superiority known. Wind and string instruments are but little imported, and are ordered by dealers as required from France or Germany.

Paints, varnishes, and oils come, as a rule, from Europe. Sometimes a small lot of paints from the United States finds its way here. Kerosene oil comes exclusively from the United States and finds an increasing sale, as the cost of coal gas has risen largely. Lubricators are for the most part made here.

Belgium supplies glass of almost all descriptions. That manufactured in the United States is unknown.

American straw wrapping paper was universally used here formerly, but is now completely superseded by German and Italian, some also coming from Belgium.

American watches and clocks of the lower grades, as well as cheap jewelry, are common and increasing in use. Germany sends toys and Nuremberg ware at prices which baffle competition.

Clothing from the United States has never been offered for sale here. Were exhibits made, with prices as low as the French and German supplies, there is no reason why a share of the market could not be secured. But much ready-made clothing is now made here, exchange and duties bringing the cost of the imported to a high figure.

Pitch-pine lumber and oars still hold their own in spite of the large production of wood in this State.

It is impossible to obtain from importers the prices they pay for their goods.

The cost of transportation varies according to the fluctuations in freight rates, but, owing to competition in steam traffic from Europe, is always lower to European countries than to the United States. There are so many opportunities for shipment from Europe, and the time in transit is so reduced,

that it is not unusual for American goods to cross the Atlantic twice, being sent from New York to Liverpool or Hamburg for reshipment. Two lines of steamers now run from Hamburg to Brazil, while from Liverpool, London, Havre, Bordeaux, Antwerp, Lisbon, etc., goods are forwarded to Rio de Janeiro, and there transshipped to this port, arriving frequently within thirty days. Goods from the United States by steamship average over forty days.

If American merchants and manufacturers wish to make outlets in this State, I would recommend: (1) The opening of a house or agency; (2) a proper exposition of the goods, as purchasers are reluctant to change, except for some real advantage.

WM. A. PRELLER,
Vice-Consul.

RIO GRANDE DO SUL, *February 4, 1893.* (Received April 27.)

ASPHALT MINES IN SYRIA.

Four asphalt mines are known to exist in Syria. One is situated in the vicinity of Hasbaya, about 40 miles southeast of Beirut; the second in Sohmor, about 30 miles to the south of this city; the third is near Ain-Ettineh village, 70 miles to the east of Beirut; and the fourth is found in the valley of the Dead Sea. Of these mines, the one at Hasbaya is the most important, and the asphalt obtained from it is considered the best, with the exception of that of the Dead Sea, which floats in small quantities on the surface of the water and drifts ashore, where it is picked up by the Bedouin Arabs.

Until 1860 these asphalt mines were almost entirely neglected, and the fellahs used to dig, free of tax, small quantities, which they applied to the stems of their vines to destroy worms that ravage the vineyards.

In 1864 the asphalt mine at Hasbaya was leased by the Turkish Government to two native merchants—Messrs. Freige & Misk—for a term of four years at a rental of 80,000 piasters ($3,520) per annum. The operations of this company did not prove very successful, lack of an adequate system of engineering greatly reducing its profits.

In 1878 the mine was leased by the firm of Messrs. Tabet & Co. for four years at an annual rental of 250,000 piasters ($11,000). During these four years about 4,000,000 kilograms (4,400 tons) of asphalt were extracted.

At the expiration of the lease the mine was leased to another company—Absy & Co.—for a term of ten years, commencing in 1888. The condition was that 65½ per cent of all the asphalt extracted should go to the agents of the imperial private treasury, the mine being the private property of the Sultan.

During the last five years the amount of asphalt obtained by Messrs. Absy & Co. from the Hasbaya mine is estimated to be 5,400 tons. The

company's success has been mainly due to their skillful engineering and methods of excavation.

No asphalt is at present extracted from the other mines in Syria, as the local Turkish authorities strictly prohibit their being worked.

When Messrs. Freige & Misk first worked the Hasbaya mine the asphalt was sold in Europe at an average rate of $19.30 per 100 kilograms (220 pounds). Its present price in the foreign markets is between $8.69 and $9.65 per 100 kilograms.

The Syrian asphalt is subject to no tax except an export duty of 1 per cent. It is rumored, however, that a new rescript issued by the Sultan enjoins that no export dues should be hereafter imposed on that article.

The exact quantity of asphalt now in stock can not be ascertained, as the parties who monopolize it decline to give the figures. It is probable, however, that not less than 3,000 tons are stored for sale by the agents of the imperial treasury and the mining company.

The asphalt obtained from the Syrian mines is invariably exported to Europe and America in its natural state, without undergoing any process of preparation.

The following table shows the value of that exported from Beirut to the United States since 1882, when the first important shipments were made:

Year.	Value.	Year.	Value.
1882	$12,239.00	1890	$6,983.00
1883	11,576.99	1891	7,303.03
1884	6,095.00	1892	21,207.44
1885	3,176.30	Total	70,538.93
1889	1,958.17		

During the years 1886, 1887, and 1888 none was exported from this consular district to the United States, owing to low prices in America and a scarcity in the supply for home consumption.

From statements made by a number of reliable persons, it seems very probable that asphalt exists in large quantities in all the mines which have been discovered, and that thousands of tons might be extracted every year if the local authorities would allow the mines to be worked.

The following is a detailed analysis of the asphalt taken from the Hasbaya mine:

The weight of the specimen was 575 grams.

This asphalt is black in color, of a bright, jet-like luster, making a blackish-brown streak on unsized paper.

Its brittleness is extreme; splinters may be easily chipped off with the fingers.

Its specific gravity is 1.104.

It is very combustible. It readily burns with a heavy, yellow flame, yielding much soot and a "bituminous," though not very disagreeable, odor. A splinter held in a flame melts and drops off before igniting. On burning

it swells up, and bubbles of gas escape. Six grams ignited and incinerated for an hour over an alcohol flame lost 4.5 grams in weight, or 75 per cent.

Pulverized it is brown in color and slightly gummy. Two and one-half grams of the powder destructively distilled for an hour readily melted, then gave off gases which quickly ignited and burned for about fifteen minutes with a clear, white flame of about 1-candle power and for a somewhat longer period with a feebler flame. The loss of the volatile hydrocarbon gases distilled from 2.5 grams was 1.7 grams, or, in other words, the bitumen contains 68 per cent of volatile hydrocarbons, and would therefore furnish valuable material to enrich illuminating gas.

CONSTANTINE KHOURI,
Vice-Consul.

BEIRUT, *April 17, 1893.*

COMMERCIAL PROGRESS IN PORTUGUESE EAST AFRICA.

The Portuguese possessions in eastern Africa date back to the beginning of the sixteenth century. The island of Mozambique was taken possession of as a seat of government in 1505–6. Previous to its occupation for that purpose a settlement had been made at Sofala, and a number of stone buildings had been erected; but the encroachment of the sea and the shifting nature of the channels in and around the settlement compelled its abandonment in favor of Mozambique.

The early Portuguese navigators are reported to have found towns of considerable size at the various harbors on this coast, inhabited by people more civilized, as it would appear, than their successors. They had long traded their native products for the goods of India and the East, brought by Indian or Arab navigators in *dhows*. For many years after the Portuguese occupation of this coast the various ports were in a flourishing condition; but the trade gradually decreased and a period of stagnation set in, which continued up to a few years ago. Various causes combined to bring about this state of depression. The districts near the coast and along the rivers had been for years raided by slave-traders. The more courageous natives, having finally turned upon their tormentors, gradually became more warlike and less devoted to tilling the ground and gathering natural products. In different parts of the country small tribes became strong nations, in which all men able to handle assagai were warriors. These nations were a constant menace to the small settlements on the coast, as well as to the smaller pastoral tribes, whom they raided and robbed of their cattle. With the swamps and fever as allies they kept white men in any numbers from penetrating far into the interior; though a few hunters, explorers, and prospectors from time to time obtained safe-conducts from the native chiefs. The towns that once flourished along the upper Zambesi were abandoned and fell into ruins.

But within the last few years a great change has come over this country. About 400 miles to the westward from Lorenzo Marquez, the southernmost

port in this province, are the rich gold mines of the Transvaal; and this port, having a good harbor and being nearer to the gold fields than any other on the coast, has in a measure shared in the prosperity of its western neighbor. About 400 miles in a northwesterly direction from the new port of Beira, in the Manica district of this province, is located Fort Salisbury, the headquarters of the British South Africa Company in Mashonaland, a country reputed to be even richer in gold than the Transvaal.

Along the valley of the Zambesi during the past few years numbers of enterprising immigrants have established extensive plantations of coffee, sugar cane, and other tropical products, and are now beginning to get a return from their investments. North of the Zambesi, along the shores of Lake Nyassa and the valley of the Shire River, are numbers of settlements of white people, mostly English, as these districts are now under British protection. These settlers are all prospering, and the trade in these districts is on the increase.

PORT OF MOZAMBIQUE.

The era of progress, however, has not yet reached the port of Mozambique; its trade, on the contrary, seems to be decreasing yearly. In this port are located the headquarters of the principal European and Indian firms trading at the ports north of Lorenzo Marquez. These houses have branches at all the ports of any importance north and south of the port of Mozambique. When almost all freight was brought in sailing vessels, the greater part of the goods destined for these ports came to Mozambique direct, was warehoused here, and forwarded when required by small sailing vessels and *dhows* to the proper destinations. But since steamers have taken the place of sailing vessels all cargoes destined for other ports in the province, with the exception of the port of Lorenzo Marquez, are transshipped in the roadstead to the small coasters, thus saving the expense of landing and warehousing.

Although the port of Mozambique has lost much of its ancient prosperity, it is still retained as the seat of government of the province. Here are the palace of the governor-general, the head offices of all the different departments, and the palace of the bishop.

This is probably the healthiest port in this province; but that is not much in its favor, as all ports without exception are full of fever.

The trade of Mozambique during the past four years was as follows:

Year.	Imports.	Exports.
1889	$709,300	$538,500
1890	687,000	451,500
1891	1,078,200	557,400
1892 (11 months)	602,700	370,400

One of the largest items of imported goods is cottons and prints, imported through Hamburg and Marseilles, much of it, however, being of

English make. English, American, and Indian cottons are imported from Bombay and Zanzibar by the Indian merchants. There is a good market here for the sale of American cottons, but on terms that American firms do not like; long credits must be given or native goods taken in exchange, perhaps both. Oil, canned goods, clocks, guns, and ammunition of American origin are imported in small quantities through European and Indian ports. Nothing at present comes to Mozambique from the United States direct.

The principal exports are groundnuts, copra,* oilseeds, grenadillo and other hard woods, skins, and ivory, which go principally to European ports, though considerable ivory is sent to India. During the past year but little native produce was brought into Mozambique from the interior, owing to the unsettled condition of the native tribes.

There is but one bank in this port, and, as it charges from 8 to 15 and 20 per cent on bill transactions, it almost entirely prevents drawing on bills of lading. A London bank, with branch banks all over South Africa, recently sent an agent here to look over the ground and to report on the business and advantages here, and it is possible that within a year a branch will be opened in this port.

The white population of Mozambique is small, and there is very little wealth here. The business of the port is almost entirely in the hands of French, German, Dutch, and Indian firms. No daily or weekly newspapers are published here, save the gazette containing the government notices.

DELAGOA BAY.

Lorenzo Marquez, or Delagoa Bay as it is sometimes called, is the principal business town in the province of Mozambique. It is also the most unhealthy, fever of the most malignant type being prevalent there for six to eight months every year.

The values of imports, exports, and goods imported for reëxportation overland to the Transvaal, designated as "transit goods," are as follows:

Year.	Imports.	Exports.	Transit.
1889	$869,000	$43,760	$284,650
1890	1,746,500	39,500	659,900
1891	1,229,900	10,700	231,500
1892 (11 months)	716,500	17,150	257,000

In the statistics published by the Mozambique government no returns of trade by countries are given; but, as the majority of the business houses are English, it may be safely stated that the greater part of the imports come from England. The American trade is in a healthy condition, and sailing vessels from American ports with general cargo arrive frequently; but this trade ought to be largely increased. The principal American imports are oil, canned goods, agricultural and mining implements, lumber, manufactures of wood, and hardware. Exporters of railroad supplies ought to do

* Dried kernel of the cocoanut.

considerable business with the Delagoa Bay Railway. American cotton goods, provisions, firearms, and ammunition would find a ready sale if properly introduced. Trade with these ports can not be worked up by sending out circulars and price lists. Personal visits with proper samples are necessary, and are bound to be successful provided the goods suit the market and the prices are satisfactory.

When the Transvaal extension of the Delagoa Bay Railway is completed, Lorenzo Marquez will be the nearest port by rail from the Transvaal gold fields, and ought to profit greatly thereby. At present merchandise for the gold fields, after arriving at the terminus of the railroad, has to be transported by ox wagon over rough roads and through a mountainous region, the journey often taking weeks.

The exports from Lorenzo Marquez consist principally of gold and silver ore and concentrates, hides, and stores for vessels.

The Bank of Africa, a branch of the London and Port Elizabeth institution of that name, located in Lorenzo Marquez, is the only English bank in Portuguese East Africa.

BEIRA.

Beira, situated at the mouth of the Pungue River, is a port barely three years old. Opened up by the explorers of the British South Africa Company in 1891, it has grown from a straggling settlement of a few huts to one of the busiest towns in the entire province. It is the only port on the east coast from which the Mashonaland and Manica gold fields can be reached, and every steamer that now arrives brings a large number of passengers bound upcountry.

Until the Beira Railway is completed the amount of freight passing through this port will necessarily be limited, as the transport of merchandise from the coast to the interior is a difficult undertaking. The goods must be put up in packages of 50 or 60 pounds in weight, and transported on the heads or shoulders of native carriers through miles of swamps and districts infested with the tsetse fly. With the railway completed to a point well outside the fly country the prosperity of Beira is assured.

The Mozambique Company, acting under a royal Portuguese charter, is now administering the affairs of Beira and the adjacent districts, but up to date has published no returns of trade. Competent judges place the amount of trade done during the past year at about $1,000,000. The imports are much the same as those of Lorenzo Marquez, though probably the greatest items are those of provisions, groceries, and soft goods. At present all American goods are imported via Lorenzo Marquez or Durban, the principal items being oils, canned goods, and manufactures of wood. There will soon be a demand for hard and soft lumber in large quantities, mining tools and machinery, oils, provisions, and naval stores.

At present all the Beira merchants transact their banking business through either the Bank of Africa, at Lorenzo Marquez, or through the Durban banks; but it is quite possible that a branch of the former will be opened during the year.

The harbor of Beira is one of the finest on the coast, and vessels of any tonnage can enter and leave at all stages of the tide. At present it is not very well defined, as the coast on both sides of the bay is very low and flat, with no natural landmarks. The harbor is fairly well buoyed, however.

QUILIMANE.

Quilimane is the principal port of entry for the Zambesi Valley and the lakes district. It is situated on the Quilimane (or Quaque) River, about 15 miles from its mouth. This river was at one time supposed to be a part of the Zambesi delta, but such is not the case. During a few months each year the country between the two rivers is flooded, and the natives manage to pick their way in canoes through narrow channels from one river to the other; but for purposes of transport these passages are of little value. All goods for the Zambesi are generally transshipped at Quilimane to lighters or small steamers and are sent into the Chinde mouth of the Zambesi, about 60 miles distant. When the Chinde mouth was first discovered, about four years ago, it was hoped that it could be entered at all seasons by vessels of moderate size; but the continual shifting of the bar off the mouth of the river prevents any but the smallest vessels entering it with safety.

The only trade returns available for Quilimane show that during the first ten months of the past year the imports amounted to $575,530 and the exports to $491,607. The imports consist principally of cotton goods, hardware and implements of a low grade, provisions, groceries and liquors, and galvanized iron for building purposes. The principal exports are groundnuts, oilseeds, copra, rubber, ivory, hard woods, skins, orchilla weed, and coffee and sugar in small quantities. The trade is principally in the hands of branches of European and Indian firms having their headquarters in Mozambique.

INHAMBANE.

This is a small but ancient town. It is situated 230 miles north of Lorenzo Marquez and is the headquarters of the American missionary societies located in Portuguese East Africa.

For the year ended December 31, 1891, its imports amounted to $155,900 and its exports to $109,000. During the first ten months of the past year its imports amounted to $140,200 and its exports to $88,791. Its imports consist principally of cotton goods, hardware and notions for the native trade, provisions, groceries, and building materials. A considerable quantity of American goods is imported via Lorenzo Marquez or Durban. Its exports (which go principally to Europe) consist of groundnuts, copra, and native products. A much larger trade could be done if the natives of the Inhambane district would pay more attention to agriculture and less to fighting and raiding their weaker neighbors.

The American missionaries are doing a good work in this district, and educate the natives in industrial matters, as well as in those of religion.

They endeavor to teach them that they will be much better occupied in honest work than in their present condition, and are meeting with considerable success.

STEAM COMMUNICATION WITH EUROPE, ASIA, AND THE SOUTH.

Four steamship companies are at present running vessels regularly along this coast. The German East African line sends a monthly steamer from Hamburg, via Lisbon, Marseilles, and the Suez Canal, to Mozambique, calling at Beira and Lorenzo Marquez, their southern terminus being Durban, Natal. The vessels of this line are from 2,000 to 4,000 tons register and are well fitted for the trade they are engaged in. Steamers from India transship to the vessels of this line at Zanzibar.

The Portuguese Royal Mail Company dispatch steamers at intervals of four weeks from Lisbon to this port via the Suez Canal, touching at intermediate ports. The vessels of this line are larger and finer than those of the German line, but they lack the regularity of the latter. Both lines have several coasting vessels which serve the intermediate ports.

From the south the Union Steamship Company sends a fortnightly steamer to Lorenzo Marquez and a steamer every six weeks to Inhambane, Beira, Quilimane, and Mozambique. A small coasting steamer belonging to this company takes freight and passengers from Quilimane to Chinde, on the Zambesi delta. The steamers of this line are well adapted for the trade they are engaged in, are of about 1,200 tons register, and can enter the harbors of the principal ports at almost any stage of the tide. They dispatch freight quickly, and their passenger accommodations are excellent.

The Castle line sends steamers of about 1,200 tons register from the south to Lorenzo Marquez and Beira every two weeks. The vessels of this line are much like those of the Union line, and their freight and passenger accommodations are about the same.

Three other steamship companies dispatch vessels from England via southern ports to ports on this coast, but at irregular intervals.

The smaller ports on this coast not visited by steamships are served by small sailing vessels and Indian and Arab *dhows*. On the Pungue River, between Beira and Fontesvilla, the starting point of the Beira Railway, a fleet of river boats and lighters fully accommodate the passenger and freight traffic. The towns on the Zambesi River, from Chinde to Zumbo, some 800 miles inland, are served by a fleet of stern-wheel river boats.

RAILWAYS.

The principal railroad in Portuguese East Africa is the Delagoa Bay Railway, running from Lorenzo Marquez 56 miles to the Transvaal border. Beyond the border it is continued by the line of the Netherlands Railway Company, which is being rapidly pushed through to the gold fields. Seventy-two miles of this section are now open for traffic, making a total length of 127 miles. Nine miles more are ready for traffic, but 7 miles are to be added before the next section is opened. Ninety-three miles from the border the

line reaches the foot of the Eland's Berg, through which a tunnel is being driven. It will be nearly a year before the approaches are constructed and the tunnel open for traffic. Between the western side of the Eland's Berg and the gold fields the country is nearly level, and the construction of the line along this section will take but a few months. Sixty-eight miles from Lorenzo Marquez a branch line 35 miles in length is being constructed to Barberton, a mining center. One mile beyond the border another branch called the Silati Railway is being constructed. It is to run in a northwesterly direction some 250 miles through a dry and arid country unfit for cultivation, but reputed to be a very rich mining field. The gauge of all these lines is 3 feet 6 inches. Although the branches are not in Portuguese territory, they are a part of the Delagoa Bay Railway system.

The Beira Railway is being constructed on a gauge of 2 feet, to be widened to 3 feet 6 inches later on, from Fontesvilla, a town on the Pungue River, 42 miles from Beira, to Mashonaland. The first section is to Chimoia's Kraal, 120 miles from Fontesvilla and about 1,500 feet above the sea level. It is expected that this section, which takes the line well out of the fly country, will be open for traffic in six or eight months. From Chimoia's Kraal this line is to be constructed through Massi-Kessi and Umtali, and its final terminus will be at Fort Salisbury.

W. STANLEY HOLLIS,
Consul.

MOZAMBIQUE, *April 10, 1893.*

THE GERMAN ENAMELED-SHEET-IRON TRUST.

The depressed state of an overstocked market during the past two or three years has recently led to the formation of a trust by German manufacturers of enameled sheet iron. The avowed object of the combine is to prevent overproduction by regulating the output upon the home market. Incidentally a scale of prices, rebates, and other charges are agreed upon. No attempt is to be made for the present to control the sale of exported wares, even when sold to German buyers.

The principle upon which the new association will operate is to measure future production by the general average of past sales, with due regard to any extraordinary conditions that may arise. Thus it is supposed that the total production for 1893 will represent the average of domestic sales for the years 1890, 1891, and 1892, reckoning from January 1 to December 31. A provisional plan was adopted to this end. A committee named for the purpose collected the figures for the years mentioned and computed the average for the present year. The exact quantity to be produced by each factory was then apportioned in general meeting.

It is not proposed to effect sales through the central agency. Every firm secures its own orders, as heretofore, and is responsible for the carrying out of its contracts. Prices and rebates are for the most part constant. The

only exception is where a firm is not producing the prescribed quantity through lack of orders. If this continues for a period exceeding a month, the president of the trust is authorized to permit a scale of lower prices until the limit of production has been reached. One firm is permitted to take over the orders of another, but no firms thus uniting may exceed their combined quota. If, at the end of the year, certain works have failed to produce their allotted quantity, they are to be reimbursed for the difference at the rate of 10 marks per 100 kilograms by those firms overproducing. This is adjusted through the central bureau. Works partially or wholly ceasing operations are not entitled to remuneration for the time so lost.

Certain checks are imposed. Pending a permanent arrangement, a committee was appointed to establish the correctness of the figures reported. Whenever a decrease in sales is ascertained, a corresponding decrease in quota is promptly ordered. Each firm is required to forward semimonthly to the central office a statement of actual shipments. Statistical summaries based upon these reports are to be published every two weeks for the information of members of the association. After a more complete organization has been effected, the directors of the various groups making up the trust are to hold quarterly sessions to fix, with the aid of the published statistics, the production for the succeeding quarter. In this manner every firm will be enabled to estimate with some exactness the quantity it is entitled to put upon the market.

The trust is made up of the manufacturers in Rhenish Westphalia, Saxony, and southern, northern, eastern, and central Germany. Thus far about thirty works are included. Affairs are directed through a president in charge of the central office, the general meeting of members, and the directors of groups. The president and vice-president are elected for one year, and the former presides at all general and group deliberations. One vote represents an annual shipment of 100 tons or a fraction thereof, but no establishment is entitled to more than five votes. Guaranty deposits at the rate of 20 marks per ton are required to be made with the central office by each firm. In case of failure to comply within four weeks with an order to pay made in accordance with the terms of the agreement, the amount involved is drawn from the fund of the defaulting firm. The security must be replaced within two weeks. The trust compact expires December 31, 1895, until which time no detail can be changed without unanimous consent. Members bind themselves not to erect new works or interest themselves in firms outside of the trust.

The association is to devise means to prevent goods intended for export finding their way to the home market. Each group is to establish a central depot for the sale of damaged wares. The principal office is located at Berlin, and the president—Dr. H. Claus, of Thale—is a successful inventor of various new enameling processes.

ALBERT H. WASHBURN,
Commercial Agent.

MAGDEBURG, *April 27, 1893.*

TIN PLATES AND SHEETS.

The following abstract from the report of the board of trade shows the amount and value of tin plates and sheets exported from the United Kingdom to other countries during the quarter ended March 31, 1893, and for corresponding quarters of the years 1891 and 1892:

Quantity of tin plates and sheets exported from Great Britain.

Country.	Month ended March 31—			Three months ended March 31—		
	1891.	1892.	1893.	1891.	1892.	1893.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Russia	3,222	4,365	3,630	6,114	8,362	9,260
Germany	137	361	309	435	1,068	812
Holland	227	447	474	799	1,246	951
France	534	838	1,166	1,095	3,474	2,445
Portugal, Azores, and Madeira	290	559	660	729	1,148	1,991
Italy	398	451	556	1,250	2,370	1,236
Roumania	89	612	549	103	1,084	559
United States	38,638	23,789	31,334	98,909	64,611	75,022
Brazil	401	581	460	1,062	1,395	1,454
Argentine Republic	301	138	247	862	577	923
British East Indies	113	525	478	409	1,727	1,292
Australasia	696	796	439	1,853	2,552	1,520
British North America	1,433	1,062	501	2,719	3,088	1,641
Other countries	1,147	1,481	1,670	3,609	5,959	4,365
Total	47,686	36,005	42,473	119,948	98,660	103,382

Value of tin plates and sheets exported from Great Britain.

Country.	Month ended March 31—			Three months ended March 31—		
	1891.	1892.	1893.	1891.	1892.	1893.
Russia	£54,030	£55,636	£44,372	£95,743	£109,449	£113,641
Germany	2,419	4,902	4,107	7,549	15,060	10,632
Holland	4,168	6,535	7,095	14,036	18,298	14,306
France	9,011	21,968	16,299	18,421	50,314	33,767
Portugal, Azores, and Madeira	5,373	7,654	8,461	12,525	15,833	25,333
Italy	6,997	6,204	7,182	21,209	32,565	15,830
Roumania	1,574	8,848	7,892	1,803	15,625	8,035
United States	651,515	324,653	410,139	1,630,803	887,561	983,468
Brazil	7,388	7,985	6,152	19,309	19,610	19,649
Argentine Republic	5,834	1,952	3,263	15,993	8,581	12,956
British East India	1,914	7,223	5,992	6,255	23,402	15,396
Australasia	12,595	12,012	5,919	32,807	37,443	20,748
British North America	24,342	15,259	7,388	46,514	46,381	24,449
Other countries	21,595	22,396	22,852	66,750	87,990	60,204
Total	808,755	493,227	557,113	1,989,717	1,368,112	1,358,424

WALTER E. HOWARD,
Consul.

CARDIFF, *April 13, 1893.*

IMMIGRATION INTO BRAZIL.

The recent repeal by the Brazilian Congress of the laws which prohibited Chinese and Japanese immigration has awakened much interest in the subject.

Though statistics relative to the number and nationality of immigrants into Brazil are incomplete, yet it is known that during the past thirty-seven years over 1,000,000 foreigners have settled in the country. It is estimated that of these 43 per cent were Italians, 34 per cent Portuguese, 6.57 per cent Germans, and 3.32 per cent Spaniards. Of the other nationalities represented the principal are the Austro-Hungarians, French, and Belgians.

During the last two years 30,000 Russian Poles have settled in Brazil. No effort will be made, however, to encourage this class.

The best mode of introducing Chinese and Japanese laborers is the question now being discussed by the planters and speculators. The labor supply is not equal to the demands of the farmers. They are unable to procure sufficient help to carry on their business.

With one exception, no steps have been taken by the companies to whom the management of immigration is intrusted to introduce these laborers—one company has gone so far as to send an agent to China to investigate the situation—they having fears that the Chinese will refuse to immigrate to this Republic.

The general opinion abroad that Brazil sends out official agents of immigration is not correct. The encouragement the Government offers is not direct, but through companies. Heretofore many companies have entered into contracts with the Government for the introduction of immigrants. These contracts, however, were all superseded by one signed August 2, 1892, with the company A Metripolitana for the introduction within the next ten years, beginning January 1, 1893, of 1,000,000 immigrants. Some of the clauses of this contract will serve to show the methods of introducing immigrants. The company can not introduce more than 100,000 or less than 20,000 per year. The maximum of 100,000 can be decreased or increased 50 per cent by previous notice of four months from the Government. The contract specifies the class of immigrants to be brought, and among the specifications is this, that 90 per cent must be families of agriculturists. The immigrants must be of different nationalities, not more than 60 per cent coming from the same country. Ages are specified, and all must be strong and apt at their professions. Paupers and criminal classes will not be received. Those who do not come up to the terms of the contract will be sent back at the expense of the company. If they are strong, honest workers, without physical defects, and declare formally that they propose to settle in Brazil, they will be accepted by the Government. They are then housed and fed until the Government transports them to their place of des-

tination in the interior. They are then allowed to take up public lands, uncultivated, at the rate of 25 milreis ($12) per hectare (2½ acres). The payment is to be made in nine annual installments, the first to be made the second year. The settler receives as advances such agricultural implements, tools, etc., as are necessary in his occupation. The Government guaranties to send back to their native country all those who become widows and orphans or incapacitated by some accidental injury resulting from the duties of their profession during the first year. Many other regulations respecting the immigrants during their first year's residence are made in various decrees of the Government looking toward their protection and encouragement.

Through this policy of encouragement there has been for some years an annual increase in immigration, and, since all eyes are now turned to China, nothing will be left undone on this side of the water to make large additions of Chinese to the present population.

O. H. DOCKERY,
Consul-General.

RIO DE JANEIRO, *February 10, 1893.*

COMMERCE OF GHENT IN 1892.*

COTTON-SPINNING.

This industry experienced the same crisis here as it did elsewhere. However, it passed through it more successfully in Ghent than in Lancashire, where wages had to be reduced and where in consequence a disastrous strike of unparalleled extent occurred. As far as can be learned, there was no reduction of wages here, nor were there any strikes, except in the weaving industry. A restriction in working days and a reduction in the force in certain establishments became, however, a necessity.

The following quotations in 1892 per pound of "middling American" give an idea of the situation of the Ghent spinners, who, it must be borne in mind, had also lost heavily in 1891 by reason of inopportune purchases:

	Pence.
Beginning of January	$4\frac{3}{16}$
End of February	$3\frac{9}{16}$
Beginning of September	$3\frac{11}{16}$
End of December	$5\frac{1}{4}$

At the end of February, 1892, the quotations were lower than they had been for half a century; consequently the yarns could not be put upon the market at prices corresponding to the extraordinarily low cost of the raw material. When the rise came, the spinners were not able to increase their prices in any adequate degree to offset their losses.

* The annual report of Consul John B. Osborne on this subject was received May 19, 1893. It will be published in Commercial Relations, which will appear in September or October next. These extracts from it are here given because of their great importance.

COTTON-WEAVING.

This industry, in sympathy with its sources of supply, also had its disasters. One disturbing element, a serious obstacle to the advancement of cotton-weaving by the Belgians, is worthy of note. A Belgian weaver persists in working only two looms. His English rival works four and even six, thus producing more than double the number of yards per week. In consequence, notwithstanding the disparity in wages, the English tissues are cheaper. During the past year an effort was made to introduce the four-loom system in Ghent. It met with determined opposition from the weavers, who were convinced that it would sooner or later cause a reduction of one-half in the number of hands. Many of them went to the extreme of striking. At present, however, the system is in operation in two establishments. The old machinery—which, it is claimed, is not adapted to the change—is being utilized.

The introduction of this new system can not at once revolutionize the industry. There is a striking difference between the English and the Belgian weavers. The average Flemish workman is slower in action than the English, who, in turn, is acknowledged to be slower than the American. It is true that the operation of four looms compels the weaver to work faster, and in the course of time it will to some extent change the habits of the Flemish workman.

At Ghent there is no agreement among manufacturers as to the class of products. In Lancashire production is restricted to certain grades. These specialties are made with greater speed and attain a higher perfection than the products of the Belgian, who sometimes manufactures as many as fourteen hundred different styles. Whatever advantage the Belgian now possesses consists in the difference in the rate of wages paid, and that will be inevitably increased by the introduction of the four-loom system.

FLAX AND TOW SPINNING.

The continuance of abundant flax crops resulted in low prices for flax and tow. The yarns had a ready sale at reduced prices. Prices rose at the end of the year, owing to the prospect of an insufficient crop for this year. It is doubtful whether the spinners will be able to keep pace with this increase. A decree of December 26 limits the hours of labor for female minors and children to eleven and a half. This will seriously affect this industry, in which are employed a large number of the classes designated in the decree.

LINEN-WEAVING.

As far as pure linens are concerned, the year was as unsatisfactory as previous ones. The mixed goods of pure thread and cotton on sale at extremely low prices exercised a baneful influence, which was aggravated by the rise in price of the raw materials. The manufacturers now look more earnestly than ever to the United States for their salvation.

This industry, which is spread all over Flanders, gives employment to an army of hands, who do excellent work for very low wages. Incredible as it may seem, there are some country communes where the daily wage is only 19.3 cents (United States money) and where only exceptionally good workmen earn 29 cents.

IMPORTATION OF LUMBER.

Formerly large quantities of German oak were imported and used largely in Government construction. Recently, owing to its deterioration in quality unattended by any corresponding diminution in price, the Government has substituted American pitch pine. This wood is also growing in the favor of furniture-makers. American exporters engaged in this industry will find in Belgium a promising field.

Imports of lumber into Ghent in 1891 and 1892.

Lumber.	1891.	1892.
American pitch pine:	*Cubic meters.*	*Cubic meters.*
Beams	19	559
Planks and boards	3,652	10,740
Lumber from other countries	154,057	167,672
Total	157,728	178,971

EXPORTS TO THE UNITED STATES.

These amounted to $1,542,074, as against $1,260,199 in 1891. The leading items were paper stock (more than one-half of the whole), flax and tow, textiles, rabbit skins and hair, and raw chicory root. All of these show considerable increases over the previous year, particularly in the case of paper stock (an excess of 25 per cent) and of flax and tow (of 100 per cent).

Quarantine restrictions, especially affecting rags and other paper stock, which constitute the bulk of the business of this consulate, will probably cause a decrease of shipments and total valuation for 1893.

JOHN B. OSBORNE,
Consul.

GHENT, *May 8, 1893.*

AMERICAN IMPORTS INTO THE NETHERLANDS.

American grain imports at the port of Rotterdam during the first three months of this year were 1,401,880 bushels; during the corresponding period in 1892, 6,803,620 bushels; and in 1891, 106,673 bushels.

American petroleum imports increased from 136,680 barrels in the first quarter of 1891 to 298,562 barrels in 1892, and fell in 1893 to 195,786 barrels.

The statement yet more in detail, showing imports of grain by months and the United States ports whence shipped, is as follows:

Grain and whence imported.	1891.			1892.			1893.		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Wheat:	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
New York	8,950	.....	.....	297,092	449,430	340,544	85,114	998,544	156,768
Baltimore	.....	.....	.....	507,280	526,450	410,308	338,329	137,853	35,017
Philadelphia	.....	.....	.....	.....	4,089	7,582	7,668	.....	76,509
New Orleans	.....	.....	.....	19,255	91,760	37,999	38,169	.....	.....
Boston	.....	.....	.....	.....	.....	34,676	.....	.....	.....
Norfolk	.....	.....	.....	.....	61,514	21,811	.....	.....	.....
Newport News	.....	.....	.....	.....	.....	.....	15,165	.....	.....
Total	8,950	.....	.....	823,627	1,133,243	852,920	484,447	237,708	268,294
Rye:									
New York	.....	.....	.....	230,721	141,943	191,785	.....	.....	.....
Baltimore	.....	.....	.....	55,039	.....	26,752	.....	.....	.....
Norfolk	.....	.....	.....	.....	92,442	.....	.....	.....	.....
Boston	.....	.....	.....	.....	.....	52,142	.....	.....	.....
Total	.....	.....	.....	285,760	234,385	270,679	.....	.....	.....
Corn:									
New York	21,555	32,546	22,237	228,336	74,550	108,544	38,254	.....	12,098
Baltimore	.....	.....	21,385	461,869	906,528	872,788	143,562	76,935	104,284
Philadelphia	.....	.....	.....	.....	85,200	255,003	.....	.....	.....
Norfolk	.....	.....	.....	.....	186,162	6,049	.....	.....	36,295
New Orleans	.....	.....	.....	19,977	.....	.....	.....	.....	.....
Total	21,555	32,546	43,622	708,182	1,252,440	1,242,384	181,816	76,935	152,678

NOTE.—Bushels are reduced from lasts at the rate of 85.2 bushels per last.

The petroleum imports by months for the current year have been: In January, 80,413 barrels; February, 54,574 barrels; March, 60,799 barrels.

WALTER E. GARDNER,
Consul.

ROTTERDAM, *May 4, 1893.*

BUILDING-SOCIETY FAILURES IN ENGLAND.

Numerous failures of building societies in this country have occurred during the past two years. They have been mainly due to unwise management and speculation.

After a certain degree of prosperity has been reached, the directors have gone into a business closely resembling banking. Sometimes a "boom" in a certain place causes lands to go up to an artificial value. Members of these societies have succeeded in borrowing large sums upon property which has been enhanced by "booming," the property depreciates, and when the society desires to realize, the depreciation becomes accentuated, the specu-

lator becomes insolvent, and a panic among the investors ensues, followed by a run upon the society, frequently forcing it into bankruptcy.

The chief reasons for the failure of these societies in England have been the lack of public knowledge of the workings of the business and the absence of an auditor appointed by the Government to protect the interests of investors.

Sometimes the auditor is one of the chief debtors, and the secretary a builder who has been depending upon the funds of his society to keep his business going.

In one case the secretary loaned large sums of money without consulting the directors, and the society failed, owing to unwise investments.

Money should not be loaned to speculative builders, as "jerry" building is likely to ensue; and jerry-built houses do not long retain their original appearance and solidity, and bring a very small return when sold under the hammer.

The dangers to be guarded against in organizing a building society are directors who speculate in land, builders who speculate in land and houses, and secretaries who have power to loan money without the approval of the directors.

An auditor should be employed who has no connection with the society, and no loan should be negotiated without the knowledge of the directors.

JASPER P. BRADLEY,
Consul.

SOUTHAMPTON, *May 2, 1893.*

ELECTRIC STREET RAILWAY IN BUDA-PESTH.

The Siemens-Halske electric street-railway system was introduced into Buda-Pesth three years ago, and is now in operation on nearly 7 miles of double-tracked road. Sixty cars, each with a seating capacity for thirty-two persons, are run over the line at an average speed of 12 miles an hour. The electric current is transmitted from a central power station through an underground conduit, from which connection is made to the motor of the cars.

The service has been exceedingly satisfactory to the public, the only short interruptions having been caused on a few occasions by unusually heavy falls of snow. The rate of speed could easily be doubled, but municipal regulations forbid any increase.

The fare charged varies from 2½ to 4 cents, according to the distance. Transfer tickets are issued for 4 cents.

The company operating the road has obtained concessions for an extension of about 3 miles over some of the principal streets, and further concessions will probably be secured.

The following facts in relation to the construction and equipment of the railway were furnished by parties in this city (the company publishing no

reports): Cost of roadbed (rails, excavating, masonry, paving, and switches), about $2,880 per mile of single track; cost of cars, including motors, $6,000 each; weight of cars, including motor, 5 tons; cost of buildings, $15,000; five boilers, with grates and masonry, $20,000; machinery (engines, dynamos, switchboard, etc.), $70,000; cost of running one car per mile (maintenance of track, labor at power station, fuel, employés on cars, etc.), 5½ cents.*

EDWARD P. T. HAMMOND,
Consul.

BUDA-PESTH, *March 25, 1893.*

COLLECTION OF DEBTS IN FRANCE.

The first step which it is necessary for a creditor in France to take before he can use legal means to collect a debt due him is to obtain a judgment against the debtor. This judgment, provided the amount due does not exceed $40, is rendered by the local justice of the peace, who, upon the payment of a small fee on the part of the creditor, dispatches through the mail a printed notice addressed to the presumably embarrassed party. The notice directs the delinquent to appear upon a certain day and at a given hour before the magistrate in question, there either to arrange for a settlement of the account or to show cause why he should not pay the whole or part of it. If a compromise can be made, well and good; if not, the defendant is a second time summoned to appear. Should he then flatly refuse payment, or if he protests his inability to liquidate or fails to put in an appearance, judgment is rendered against him. The cost of the judgment, together with that of the summons, is defrayed by the plaintiff, and a copy of the former is sent to the debtor. He has then three months' grace, during which period he may appeal before a civil court the judgment already handed down. Failing to do this, or admitting, for argument's sake, that the case goes to trial and that the judgment of the lower tribunal is sustained, the plaintiff puts the entire matter in the hands of a *huissier*, or recognized debt-collector. This officer of justice, if he can be called such, is indirectly an appointee of the State, though he receives no compensation from its exchequer. Like notaries, advocates, and counselors, he is an independent individual, locating his office where he chooses and depending for a livelihood upon his fees. His functions partake of those of both the bailiff and process-server; but his methods, as well as his prerogatives, resemble neither the one nor the other.

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*NOTE BY THE DEPARTMENT.—The editor of the Chicago Street Railway Review, in a letter to the Department dated May 29, says that the rails necessary to carry a motor car weighing 5 tons ought never to be less than 60 pounds to the yard, and that the cost for iron alone for a mile of single track would therefore be fully $2,880, leaving nothing for the other items mentioned nor for construction. The editor states that he has learned from the American branch of the Siemens-Halske Company, in Chicago, that the operating expenses per car per mile are 9.2 cents, instead of 5.5 cents as stated by the consul; also, that the cost of construction ranges from $10,000 to $50,000 per mile of single track, according to completeness of work and amount of cement, etc., which is used.

It was Philippe le Bel, King of France, who, in November, 1302, caused to be appointed to office a certain number of men—one hundred and fifty in all—who were authorized by royal decree to collect unpaid revenue, seize chattels, and imprison those who attempted to evade taxation. Some were provided with horses, while others performed their duties on foot. The authority with which these agents of the law were clothed, however, led them in a great many instances to overstep their privileges. Innumerable complaints were made by the people to the King, and he was finally forced to diminish the number of this arbitrary band of tax-collectors, whose ranks had already been seriously depleted by the community itself.

Henry II, who took the utmost precaution that the Kingdom should not be defrauded of the imposts levied upon its subjects, gave additional encouragement to the maintenance of this body. The only modifications made under his reign, nevertheless, were that a *huissier* should at least be able to read and write, and that in despoiling a debtor of his property he should leave in the latter's possession a duplicate inventory of the same.

To-day a *huissier* is authorized to practice his calling by a special permit issued by the minister of justice, to whom application must first be made through a local magistrate. He must have attained the age of 25 years, have served in the army, have studied law two years under the direction of a notary, advocate, or other *huissier*, and must also furnish certificates of recommendation attesting his good character.

The *huissier*, upon request of the creditor, makes an abstract statement of the conditions of the debt. This résumé, written on paper stamped and water-marked by the Government—as, in fact, are all legal acts passed in France—is known as a "signification," and is handed in person to the debtor. The fee for preparing and serving the same varies according to the length of the instrument and not according to the importance of the debt. Its average cost may be placed at $2.50. The signification is nothing more or less than a full statement of the case and a request for immediate payment.

Should the debtor disregard or ignore this document, an "assignation" is served upon him, which is, in turn, a mere repetition of the other. Again, if, after the receipt of this notice, the debtor fails within a period of eight days to settle the amount due, a third notice to the effect that his furniture and belongings will be seized is placed in his hands by the *huissier*.

The expense entailed in the preparation of these notices, their cost being from $2 to $3 each, is defrayed by the creditor. If at any moment the debtor agrees to liquidate in full, he is not only required by law to discharge his original obligation, but to add to it the costs of the judgment and fees of the *huissier*. If his furniture is sold in order to satisfy the debt, enough must be placed at the disposal of the auctioneer to cover both the original debt and the costs of the abortive collection. In this way the creditor is practically insured against loss, while the debtor only augments by procrastination the amount of his indebtedness.

On the other hand, presuming the court to have decided the case against the creditor, the plaintiff and not the debtor is obliged to pay the costs. Not only that, but he must pay as well the legal fees of the opposing counsel, as his adversary would be forced to do should he lose the suit.

Not the least important of the *huissier's* functions in France is the collection of moneys due for unpaid rent. In this instance no judgment is required. The landlord has simply to ask for and to receive the authorization of a referee or the president of the civil tribunal in order to employ legal means for the recovery of the arrears. If payment is not forthcoming within a certain specified time, a provisory seizure is made of the tenant's effects; and if at the end of one month, and after numerous threats, settlement is not made, judgment is given and furniture or other property is attached.

Whether or not this system of debt-collecting is a better or a worse one than that which exists in the United States is a matter of opinion.

The *huissier* is in the Republic of France an individual to be feared by all whose finances are run on the same scale as were those of Mr. Wilkins Micawber. But his prerogatives, happily for the debtors, are in some degree limited. Unlike certain agents of the law, his work—his attachments, seizures, threats, evictions, and process-serving—must be performed between the rising and the setting of the sun. This gives him about sixteen hours of activity in midsummer and eight at Christmastide.

HORACE G. KNOWLES,
Consul.

BORDEAUX, *April 25, 1893.*

IMPORTATION OF LARD INTO VENEZUELA.

The following is a translation of a decree of the Venezuelan Government, dated March 16, 1893, transmitted by Minister Partridge:

For the purpose of avoiding the inconveniences and difficulties which have occurred in practice in the classification and appraisal of foreign lards, according to the regulations prescribed in Nos. 2 and 3 of the executive resolution of January 23 last, the National Executive has decreed that lards introduced through the ports of the Republic after the 30th of April next, coming from Europe or the United States of America or from foreign colonies, shall be appraised in the third class under the denomination of "manteca de puerco" (pork lard), under which is to be included not only that which is pure, but also mixtures known under the name of "oleomargarines;" importers being required to present to the custom-houses, together with the accompanying consular invoice, an official certificate made by a chemist or expert of the material at the place of production stating the quality of the lard and the nature and proportion of the substances of which it is formed in case of its being a mixture. This, however, shall not free the police officials in the towns of the Republic from the duty of examining, in accordance with the respective orders of the police, as to whether lards offered for sale contain foreign substances injurious to health, to the end that in case they do there may be applied to the offenders the corresponding punishments which are established.

With this resolution the one hereinbefore cited made the 28th [23d ?] of January last is annulled.

ITALIAN IMMIGRATION.

BARON FAVA TO MR. FOSTER.

[Translation.]

Personal.] ROYAL LEGATION OF ITALY,
Washington, D. C., February 9, 1893.

DEAR MR. FOSTER: There was recently published from the Treasury Department a volume containing the report of the Commissioners of Immigration on the causes that had led to the development of emigration toward the United States.

This volume contains on page 63 of the second part a letter from Mr. Pugh, Consul of the United States at Palermo, dated October 31, 1891, which at a certain point states as follows:

> It is also believed that, in order to free the community from people of notoriously bad life, the authorities of the province of Palermo issued penal certificates *under false names even when the person who applies for them is well known.*

His Excellency the Chevalier (Cavalier) Brin, His Majesty's Minister for Foreign Affairs, calling my attention to this fact, has, in his dispatch dated January 12 ultimo, expressed much surprise that a foreign consul residing in the Kingdom should not hesitate to hurl such an accusation against the royal authorities (administration).

Notwithstanding the fact that such an accusation bears at first sight all the characteristics of an absurdity, yet his Excellency wished to inform his colleague, the Minister of the Interior, of it, begging him to have a rigorous investigation made in order to ascertain the amount of responsibility that Mr. Pugh has incurred by writing to his Government the words above mentioned.

The result was what could have been expected (or foreseen). The ten documents transmitted by Cavalier Brin, which I have the honor to inclose herewith confidentially and with the request that they shall be returned, prove in an irrefutable manner that the assertion of Mr. Pugh is absolutely contrary to the truth, *no passport and no penal certificate having ever been issued under a supposititious name.*

His Excellency Mr. Brin adds that, the case standing thus, the Government of the King can only deplore the carelessness (lightness) with which the American Consul at Palermo has expressed an opinion so offensive to the Italian authorities and the readiness with which the Department of the Treasury has given official publicity to that same expression without previously asking the Consul for proofs of his assertion.

The Royal Government, thus observes his Excellency, can not allow this gratuitous accusation to exist, and is certain that, in view of the many proofs of good friendship that unite us, the United States will not hesitate to give it a reparation adequate to the gravity of the injury, and that your Excel-

lency will find means besides to destroy by a new official publication (or statement) that of Mr. Pugh, inconsistent and offensive to the Italian authorities.

From the above considerations I do not doubt one moment that the steps taken by the Government of the United States in this unpleasant incident shall be consistent with justice, and such as to entirely dispel the painful impression produced on my Government by the publication of the Treasury Department.

I have, etc.,

FAVA.

THE PREFECT OF PALERMO TO THE MINISTER OF THE INTERIOR.

[Translation.]

PALERMO, *December 23, 1892.*

Subject: Emigration to the United States.

Mr. MINISTER: In pursuance of the instructions contained in your note of the 13th instant (No. 11,900, fol. 10), I have made a thorough investigation in the office of the questor* and in the subordinate offices of public safety, through the agency of the sub-prefecto, from which it appears that there is no foundation whatever for the statement made by the United States consul to the effect that the authorities of the province of Palermo, with a view of getting rid of persons of notoriously bad conduct, have issued passports to such persons under false names and on presentation of false penal certificates containing false statements.

As to the questor's office, I have thought proper, in addition to the inquiries made, to take the formal depositions of the questor, the inspector in chief, of the officers whose business it is to issue passports, of the delegate of public safety of the maritime office, and of several officers who are charged with the surveillance of ex-convicts, as your excellency will see by the accompanying report.

The information secured and the statements made by the officers charged with the maintenance of the public safety show that the charge in question is wholly unfounded, while the formalities that are required for the issuance of passports and the control that is exercised over their delivery to emigrants (which takes place on board of the steamer and in presence of the commission whose duty it is to examine vessels) are a sufficient guaranty against any possible abuses on the part of the authorities and of private individuals. In order that what has been charged by the consul might be done, an agreement would be necessary among syndics, delegates, section inspectors, royal carabineers, and members of the commission appointed to examine vessels—which is not to be thought of.

From the investigation made it appears that passports have always been issued in the real names of the persons receiving them, and never under an assumed name.

COLMAYER,
Royal Prefect.

A true copy.

MASSAMBRA,
Chief of the Fifth Division of the Ministry of the Interior.

Deposition of the questor, or chief of police, of Palermo.

[Translation.]

On the 18th day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, Knight Commander Vincenzo Colmayer, prefect of the province, ap-

* Chief of police.

peared, in compliance with a summons, the Chevalier Eugenio Balabio, royal questor, who, in reply to questions, made the following statement:

"The abuse referred to by your excellency, to wit, that in the year 1891 or thereafter passports for foreign countries were issued to certain individuals under false names and on presentation of penal certificates with false names can not have taken place, because applications for passports are invariably presented to the syndics or detailed delegates or to the section inspectors, who must certify that there is no objection to the issuance of the passport, first of all, through the agents under their control or through the royal carabineers (except in the case of very well-known persons), ascertain the identity of the applicants, and make inquiry in regard to them for the purpose of learning the reasons why they leave their country. There is still less possibility of the issuance of passports to ex-convicts under surveillance, because, in addition to the aforesaid formalities and to the penal certificate, emigrants are required to present a certificate from the royal procurator showing that there are no criminal charges against them. It is proper for me to add, in conclusion, that as soon as the passports are issued by the police office, they are sent to the delegate of public safety of the maritime office, who, after taking note of them, does not deliver them to the interested parties until the very time of their going on board the steamer, after having ascertained their identity, and always in presence of the commission whose duty it is to search and examine vessels. The foregoing is the result of the careful investigation made in pursuance of your excellency's verbal instruction with regard to the usage in respect to the issuance of passports, especially to those issued in the year 1891."

From which the present report was prepared, which, having been duly read and confirmed, is signed.

EUGENIO BALABIO,
Royal Questor.

Correct.

VINCENZO COLMAYER,
Prefect.

Deposition of the inspector in chief of the police office at Palermo.

[Translation.]

On the 18th day of December, in the year 1892, at the office of the prefect of Palermo, before the undersigned, Knight Commander Vincenzo Colmayer, advocate, prefect of the province of Palermo, appeared in compliance with a summons, the Chevalier Nestore Peruzy, inspector in chief of the local police office, who, in reply to questions, made the following statement:

"I have assisted the chief of police in his inquiries with regard to the usage observed in the issuance of passports during the year 1891 and thereafter, and I, too, have become convinced that passports can not have been issued under false names and on presentation of penal certificates with false names to persons against whom criminal charges were pending. The formalities observed before passports are issued are such as to furnish a guaranty against any abuses of that kind. It is proper for me to add that, in addition to the presentation of penal certificates, the system has been introduced here of requiring another certificate, that is to say, the so-called certificate of *pending charges*, for the purpose of ascertaining that there are no charges against the emigrant, and that he has no penalty to serve, and finally that the passports, when issued, are sent to the delegate of public safety of the maritime office, who delivers them to the emigrants on board of the steamer, after having examined the persons to whom they are issued and ascertained their identity."

Of the foregoing the present report has been made, which, after having been read and confirmed, is signed.

NESTORE PERUZY.
Inspector,

V. COLMAYER,
Prefect.

Deposition of the first delegate of public safety attached to the police office at Palermo.

[Translation.]

On the 19th day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of Palermo, appeared Mr. Vittoriano Sentini, delegate of public safety of the first class attached to the local police office, who, in reply to questions, made the following statement:

"Since the year 1884 I have been attached to the executive division of the police office in the capacity of chief of that division; consequently I have had charge of the issuance of foreign passports. Before passports are issued, the police office causes the preliminary steps to be taken by the syndics, detached delegates, or inspectors of the sections to which the applicants belong, and, as the said authorities must certify that there are no objections, they are under the necessity of ascertaining the identity of the persons who desire to emigrate. In addition to this a penal certificate is required; and for some time past, in order to insure greater safety, the practice has been introduced of requiring also a certificate from the royal procurator (district attorney), showing that the emigrants have no charges of a criminal nature pending against them. It is therefore impossible for a foreign passport to be issued to a person who still has time to serve in prison or against whom any criminal charge is pending. Since 1884 I have never, either voluntarily or in obedience to superior orders, issued passports under false names to persons against whom criminal charges are pending, nor can any such irregularity have been committed through the agency of subordinate functionaries whose business it is to sign passports, because everything that is done is first examined by me and by the chief of police, and not a single passport can be issued otherwise than in pursuance of an order in due form."

The present report has been prepared, which, having been read and confirmed, is signed.

VITTORIANO SENTINI,
First Delegate of Public Safety,

Correct.

VINCENZO COLMAYER,
Prefect.

Deposition of the delegate of public safety attached to the police office at Palermo.

[Translation.]

On the 19th day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of Palermo, appeared, in compliance with a summons, Mr. Labarbera, son of the late Giuseppe Labarbera, 62 years of age, of Trapani, delegate of public safety attached to the local police office, who, in reply to questions, made the following statement:

"I have been attached to the central police office for about fifteen years past. I am in charge of the judicial police, and it is a part of my duty to exercise surveillance over persons who have been convicted of a crime and who are regarded as suspicious characters. I solemnly declare that I do not know of a single instance in which a convicted person, against whom there was any charge pending or who still had time to serve, left here for a foreign country with a passport obtained under a false name. Passports are issued, on the basis of a certificate declaring that there is no objection to their issuance, by a syndic where there is no detailed delegate or section inspector, who previously ascertains the personal identity of the applicant, who must produce, in support of his application, a penal certificate and other documents."

Having been read and confirmed, this report is signed.

ALBERTO LABARBERA,
VINCENZO COLMAYER.

Deposition of the vice-inspector of public safety at Palermo.

[Translation.]

On the 19th day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of the province of Palermo, appeared, in compliance with a summons, Mr. Antonio (*sic*) Campione, advocate, son of the late Onofrio Campione, vice-inspector of public safety, who, in reply to questions, made the following statement:

"Since the year 1880 I have been employed at the central police office, where I am in the ex-convict and judicial police service. I solemnly declare that I have never known a foreign passport to be issued under a false name to a known individual or on presentation of a penal certificate containing false statements for the purpose of ridding the province of bad elements or of persons who had time to serve. The formalities required for the issuance of passports are a guaranty that the abuse referred to by your excellency does not take place."

The present report, having been duly read and confirmed, is signed.

EMILIO CAMPIONE,
Vice-Inspector of Public Safety,
VINCENZO COLMAYER,
Prefect of Palermo.

Deposition of the delegate of public safety attached to the maritime office of Palermo.

[Translation.]

On the 20th day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of the province, appeared, in compliance with a summons, Mr. Isidoro Del Giudice, delegate of public safety, who, in answer to questions, made the following statement:

"I have been attached to the maritime office of public safety for more than three years, and can most positively state that I have never known of an instance in which a passport was issued under a false name to a known individual for the purpose of ridding the province of undesirable elements or to persons who had criminal charges pending against them. In addition to the formalities which, according to the instructions now in force, govern this matter, and which guaranty the identity of emigrants, the police office, when the passports are issued, does not deliver them directly to the interested parties, but sends them to my office; and I, in the presence of the commission whose duty it is to search and examine vessels, and on board of the steamer by which they are to sail, deliver them to the emigrants after having ascertained, by examining the persons named, and by means of other inquiries, the identity of the persons to whom the passports are issued. I must add that after going on board emigrants are also inspected by another officer of the public safety, who is sent by the police office for this purpose."

The present report, having been duly read and confirmed, is signed.

ISIDORO DEL GIUDICE,
Delegate Attached to the Maritime Office of Public Safety,
VINCENZO COLMAYER,
Prefect of Palermo.

Deposition of the vice-inspector of public safety attached to the central police office.

[Translation.]

On the 21st day of September [December], in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of the province, appeared, in compliance with a

summons, Dr. Nicola Gatta, vice-inspector of public safety attached to the central police office, who, in reply to questions, made the following statement:

"I have been at Palermo for more than two years and a half, and for about a year I have been acting director of the sections of public safety in the districts of Castellamare and Termoli (?) in the absence of the directors of those sections. It is proper for me to state that when an application for a foreign passport is made, inquiries are made with regard to the person who proposes to emigrate—his conduct and penal antecedents—before a certificate is given that there are no obstacles in the way of the issuance of the passport. It is thus evident that no foreign passports can be issued under false names to persons against whom criminal charges are pending."

In reply to a question, Dr. Gatta said:

"I have been attached to the central police office in the division of judicial police for about a year and a half, and I have never known of a case in which a foreign passport was issued either under a true or a false name to an ex-convict against whom charges were still pending or who still had a term to serve on account of sentence passed upon him."

The foregoing report, having been read and confirmed, was signed.

DR. NICOLA GATTA,
Vice-Inspector of Public Safety Attached to the Central Police Office.

Correct.

VINCENZO COLMAYER,
Prefect of Palermo.

Deposition of Mr. Antonio Lupari, delegate of public safety at Palermo.

[Translation.]

On the 21st day of December, in the year 1892, in the office of the prefect of Palermo, before the undersigned, prefect of the province, appeared, in compliance with a summons, Mr. Antonio Lupari, delegate of public safety, who, in reply to questions, made the following statement:

"I have been attached to the flying squadron of police since the month of June, 1891, and a case has never come to my knowledge in which a foreign passport was issued under a false name to an ex-convict or to a person against whom a criminal charge was pending. I have several times been detailed by the chief of police to assist the delegate of public safety of the maritime office in his visits to steamers about to sail for America, and I declare that the passports are delivered by the delegate of the maritime office after he has ascertained the identity of the emigrants to whom passports are issued, by means of a personal examination and of other inquiries."

This report, after having been read and confirmed, was signed.

ANTONIO LUPARI,
Delegate of Public Safety.

Correct.

VINCENZO COLMAYER,
Prefect of Palermo.

Deposition of Mr. Antonio Luciani, delegate of public safety at Palermo.

[Translation.]

On the 21st day of December, in the year 1892, in the office of the prefect at Palermo, before the undersigned, prefect of Palermo, appeared, in compliance with a summons, Mr. Antonio Luciani, son of the late Raffaele Luciani, 54 years of age, of Catanzaro, delegate of public safety, who, in reply to questions, made the following statement:

"I am attached to the central office, and at the present time to the division in which foreign passports are issued. The formalities required previous to the issuance of a passport

are various. A certificate is required from the sections of detailed delegates or syndics showing that there is no objection to the issuance of a passport; also, a penal certificate showing that there are no criminal charges against the applicant. The authorities issuing the first-named certificate make inquiries as to the identity of the person applying for a passport, and thus it is evident that passports can not be issued under a false name."

This report, having been read and confirmed, was signed.

ANTONIO LUCIANI,
Delegate of Public Safety.

Correct.

VINCENZO COLMAYER,
Prefect of Palermo.

MR. WHARTON TO BARON FAVA.

Personal.] DEPARTMENT OF STATE,
Washington, February 28, 1893.

SIR: I have the honor to acknowledge the receipt of your note of the 9th instant, presenting a complaint against our Consul at Palermo for a statement made by him and published in a report of the Commissioner of Immigration, issued by the Treasury Department, to the effect that the authorities of the province of Palermo issued penal certificates under false names.

I have read the evidence accompanying your note and have the honor to say, in reply, that the publication of the clause referred to in the Consul's dispatch is regretted by this Government, and that it appears to have been made without sufficient investigation on Mr. Pugh's part as to its truthfulness.

The contradiction of the statement by your Government will be immediately communicated to the Secretary of the Treasury, with a request to forward it to the Select Committee on Immigration and Naturalization for their information.

Accept, Mr. Minister, the renewed assurance of my highest consideration.

WILLIAM F. WHARTON,
Acting Secretary.

NOTES.

Changes in Venezuelan tariff.—Under date of April 21, 1893, Consul Plumacher, at Maracaibo, reports that on April 5, 1893, the Executive of Venezuela issued a decree reëstablishing import duties on corn, rice, pease, beans, and potatoes from the 5th day of May; thus abrogating the decree of July 15, 1892, reducing the duties upon these products.

Sugar in Cuba.—Commercial Agent Mullen, at Sagua la Grande, reports May 1, 1893, that the grinding of sugar cane has been almost completed, and that the indications still are that there will be a decrease of 30 per cent as compared with the last crop. He adds that during the latter part of April the abundant rains which interfered with grinding were nevertheless beneficial, as they permitted the planting of spring cane, which will help increase the coming crop of 1894.

Venezuelan cotton schedule.—Consul Plumacher, at Maracaibo, under date of April 5, 1893, transmitted the following translation of a decree of the Venezuelan Government made on March 1:

In consideration of the doubts arising in custom-houses as to the classification of cotton cord, thread, and twine, which is manifested with different designations to the detriment of the treasury, the National Executive has determined to schedule them as follows:

Twisted cotton twine suitable for fishing lines, in the fourth class; common sewing thread and loose thread for embroidering, in the fifth class. In the sixth class will be included the thin thread for weaving and whatever other thread twisted in the form of cord as that called "card thread" and for sewing sails, either white or colored, that by its flexibility could not be considered twine and may be used for weaving either by hand or machinery. The cord indicated in Nos. 474 and 463 of the present tariff will remain, without alteration, in the seventh class, as heretofore.

Peruvian cotton for the United States.—Consul Daugherty, of Callao, under date of March 11, 1893, forwards the following extract from a letter of John F. Hopkins, jr., United States consular agent at Paita, concerning the condition of trade at that point:

You will notice from my reports that the export of cotton from this district to the United States is increasing, New York being the principal distributing point in the United States. I have not yet heard how the small trial shipments to San Francisco, Cal., turned out, but I am of the opinion that, if the results were satisfactory, shipments would be larger to that point. The very high freights charged no doubt seriously interfere with the development of the trade to New York, the rate being $28 in gold per 2,240 pounds via Panama. A certain amount of cotton goes via the Straits of Magellan at £3 5s. per 2,240 pounds. The drawback to the latter route is the length of time required to place the cotton on the market.

Straw hats, commonly known as Panama hats, are now sent to New York principally, if not entirely, for transshipment to the West Indies.

It is now nearly two years since the rains, and the production of cotton decreases as the moisture disappears; but farmers have nearly all paid up what they were owing, in spite of the decrease in yield, the prices received for the cotton being very high; so that, although articles of consumption, owing to the fall in the value of silver, have advanced in price, trade is flourishing.

Hats are made almost exclusively in the district of Catacaos, and when the Indians of that district are unable to work on their lands, whether from excess or want of moisture, their attention is turned to the manufacture of hats.

Superiority of American tools.—Consul-General Mason, at Frankfort, promptly transmitted to the Department the following translation of an article which appeared in the Frankfurter Zeitung of April 6, 1893:

The manufacture of tools in the United States bids fair to surpass that of all other countries, including even England. The American implement is lighter, handier, and is usually made of better material than has been hitherto employed in Europe. The Americans have excellent iron and unequaled wood. (Hickory hammer handles!) The American tool manufacturers appear to have entirely abandoned European traditions and to have struck out an entirely new path for themselves; hammers, augurs, files, sharpening and cutting tools, axes, saws, spades, screws, nails, etc., even the handles of implements, appear to have received quite new forms. In the same way the genius of the American, extremely careful to save all unnecessary labor, uses cast iron far more than it is employed in Europe. A great many machines and parts of tools that we make of wrought iron are there obtained in excellent quality by casting. This has the important advantage that if a part of a machine is broken or worn, another exactly similar can be procured by sending to the factory its catalogue number.

The American always endeavors as far as possible to economize labor. The blacksmith gets along without the man whom we consider absolutely necessary to hold the horse's leg. There is contained in every American an inventor, a mechanic, or an architect. It is marvelous with what simple means they can succeed. As an example of the practical common sense of the Americans we may instance the following: The mason, who with us considers the cutting hammer an indispensable implement, does not regard it a separate tool in America; there the trowel is made of hardened steel and so shaped that it is used to cut and break bricks in bricklaying. When one thinks of the time that is lost in changing tools during the construction of a small house, we can see that this makes an important economy. The woodman, for another example, uses the ax far more than the saw, notwithstanding the danger which it involves. The Americans are as extravagant with materials as they are economical with labor, and for this reason the repairing of tools and implements plays a less important rôle than with us.

What is the reason of the undeniable superiority of the American tool? It can be accounted for partly, but not entirely, by the superiority of their materials. In a treatise on "The Condition of the Laboring Classes in North America," by Arthur von Studnitz, from which the above statements have been derived, this question is answered by the fact that in Europe the tools are owned and provided by the employers of labor, while in America they are the property of the workmen. The American mechanic often possesses a small capital in his tools, and is therefore able to choose them each to suit his hand and strength, while in Europe the workingman has to adapt himself to such tools as are provided for him. There is therefore in America a skillful selection of tools and implements that is absolutely wanting with us. There, every mechanic takes care to be provided with tools carefully adapted to his use; for example, hammer and ax handles are often made in special forms to suit the convenience of the man who is to use them.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 154.—JULY, 1893.

STREET-PAVING IN AUSTRALIAN CITIES.

The nature of the soil of Australia made traffic over the roads of the colony extremely difficult; in the dry season they were beds of loose sand and dust and in the rainy season rivers of quicksand.

The first efforts at improvement consisted in raising the roadway from 10 to 12 inches with earth from the sides, leaving broad and shallow ditches for drainage. Over this roadway was spread 6 inches of stone, usually basaltic in character, broken into 4 to 6 inch cubes; over this a layer of stone, broken to 2½ by 2½ inches, was spread 4 inches deep. This was "blinded" with screenings from the breaking and the whole rolled solid with a steam roller.

The roadway was about 20 feet in width, and cost for the stone alone about 4*s*. (or $1 in United States currency) per square yard, laid and rolled. These roads have been found to answer well where the traffic was not heavy or continuous; but in the leading thoroughfares in the cities not only is their maintenance very costly, but they are not satisfactory in durability.

In 1880 A. C. Mountain, M. Inst. C. E., then surveyor to the corporation of Sydney, New South Wales, in a report to that body, urged the paving of the streets of that city with wooden blocks in place of the macadamizing previously used, calling particular attention to the value of Australian hard woods for the purpose on account of their toughness and durability. Then followed a series of experiments to discover the proper foundation, the best method of laying the blocks, and the value of different kinds of wood for the purpose. King street, which is a short cross street in the busiest part of the city, was paved with eight varieties of timber, viz: Red gum (*Eucalyptus rostrata*), black butt (*Eucalyptus pilularis*), blue gum (*Eucalyptus botryoides*), box (*Eucalyptus albens*), ash (*Eucalyptus virgata*), cedar (*Cedrela australis*), brown pine (*Ferenela endlicherii*), and Baltic deals. The first four were hard woods, and all were native except the last, which was from Sweden.

Owing to a fear that the hard woods would prove slippery, the blocks were laid with 1-inch joints; but the width of joint has since been gradually reduced to three-eighths of an inch, without any appreciable increase of danger to horses. The foundation consisted of a layer of Portland-cement concrete 6 inches thick, rendered on the surface with a coat of cement mortar, on which, after a week's interval, the blocks—9 by 6 by 3 inches—were placed transversely across the street, with two longitudinal rows next the curbs. These blocks, before being laid, were dipped in kerosene tar; but, as it was found that after twenty-four hours' soaking in heated tar the penetration of the tar into the hard-wood blocks was only one-sixteenth of an inch, owing to the density of the wood, no preservative treatment was subsequently attempted.

The street thus paved was opened for traffic in August, 1880, and in March, 1882, blocks of the different woods were removed and the wear carefully measured. The red and blue gums and black butt retained almost intact their original depth of 6 inches, the box and the ash had been reduced about one-eighth of an inch, the cedar and brown pine about one-fourth of an inch, and the Baltic three-eighths of an inch. In 1885, the cedar, being short in the grain, had broken away rapidly, and was, with the brown pine and Baltic, replaced by hard wood, and small renewals were made of the ash and box. Except the cedar, the blocks renewed might have lasted another year; but they rendered the surface irregular.

Flinders street, in Melbourne, was paved with 6-inch red-gum blocks in 1882. This street is in the busiest section of the city, connecting the railways and the wharfs, and the traffic is of the heaviest description. Blocks taken from the center of this street in 1891 showed a wear of one-sixteenth of an inch; but here, as in Sydney, all of the earlier work was done with three-quarter-inch to 1-inch joints, and these were calked with a molten pitch of tar and screenings obtained from crushing stone for macadamized roads, which served the double purpose of holding the blocks firmly in place and preventing surface water from getting down to the concrete. The joint has since been reduced to five-sixteenths of an inch; and the calking is now done with properly prepared cement, as it was found that the pitch wore away and the iron-shod feet of the horses broke down the corners of the blocks, so that the road was disagreeably rough and noisy.

The streets of the principal cities of Australia having the heaviest traffic are now paved with Australian hard wood, and where proper attention has been given to the foundation and to a right selection of blocks the result has been most satisfactory. Although much of it has been down from eight to ten years and subjected to the severest test, the arch of the street is still well maintained, with an even surface, and drains practically as when first laid.

Both the climatic and traffic conditions of these cities are different from those of the cities of the United States, yet there is no reason to suppose that the woods used here will not be equally suitable there.

It is now about six years since the first shipments were made to London of jarrah and karri for street-paving. Owing to the unsatisfactory results of previous experiments with oak, elm, beech, and pine, there was much opposition to their introduction, but so far they have given excellent results and are being largely adopted for the carriage-way pavements of London. From Engineering, published in 1892, we learn that they have been put down in eighteen vestries, and that wherever the wood has been laid in a suitable manner it has given the most satisfactory results. Three thousand one hundred and sixty-seven loads, each of 600 square feet, of jarrah and karri woods were shipped to London in 1891 for street-paving purposes.

In the earlier days of street-paving in cities it was customary to lay the covering material upon an earth or sand foundation, but the almost invariable rule now is to lay the whole breadth of the road with a layer of cement concrete 6 inches deep and arched to the convexity necessary to the locality. Engineers and surveyors have for some time regarded this bed of concrete as the actual road pavement and, if durability, evenness of surface, and eventual economy be desired, of the first necessity. This cement concrete, if of good materials and carefully laid, will practically last for generations; it takes the weight of the traffic and furnishes stability to the street surface. Here, where the sandy nature of the soil gives a natural drainage and there is no frost to "lift" from below, the 6-inch bed of 6 or 7 to 1 cement concrete has been found to be sufficiently heavy. It is extended to the gutters, 4 feet wide, formed of dressed-stone cubes bedded in sand, which affords the necessary expansion joints.

The half-chain roadways are of wood on concrete foundation, as before described, with wooden gutters 12 inches wide, formed of wooden blocks placed in line with the direction of the street and at right angles to the direction of the other blocks, their surface being 2 inches lower than the nearest street block. These and the two adjoining street blocks have three-quarter-inch sand joints for expansion.

The solidity of jarrah and karri is such that some complaint is made of their slipperiness during and immediately after slight showers of rain, but this is provided for by lightly sanding the streets at such times. At all other times the horse shod with a flat shoe finds as good footing as on streets paved in the ordinary way.

It will be seen from the following figures that the first cost of thus paving a street is heavy, but the total expenditure in Melbourne in ten years for maintenance and repairs amounted to less than 1 per cent on the total cost of the work:

	Per square yard.
Karri blocks 9 by 6 by 3	$2.16
Jarrah blocks 9 by 6 by 3	2.40
6-inch cement concrete (7 to 1) and mortar rendering on surface	1.56
Laying and grouting	.30
Excavation and removal (average 1 foot) and sundries	.30
Total	6.72

The above cost is for blocks delivered in Melbourne, and it is probable that they could be landed in cities on the coast in the United States for the same amount.

In London karri and jarrah have worn four times as long as pine, and are still down, thus avoiding the long interruptions to traffic which occur every few years while the surface is being renewed. The scavengering can be well and quickly done, and the sanitary conditions must therefore be better. When it is necessary for any purpose to break the street, the cement concrete lends itself readily to repairs.

The government of West Australia has made a special effort to call the attention of the cities of the United States to karri and jarrah as a paving material by sending to the World's Columbian Exposition an exhibit of both woods. If possible to secure the space in some much-traveled thoroughfare, it was the intention to have a section laid with full-sized blocks and grouted joints on a cement-concrete foundation, showing how and why the cities of Australia have the smoothest, cleanest, neatest, most durable, and most economical street-paving of any of the cities of the world.

OBSTACLES TO TRADE.

The greatest difficulty to be overcome in developing the trade of the United States with Australia is to secure a return lading. Most of the vessels bringing assorted cargoes from the eastern, and pine and soft lumber from the western, coasts of America load with coal or leave in ballast, and the probability is that a cargo of karri or jarrah would be carried as return lading at a very low rate.

GEO. H. WALLACE,
Consul-General.

MELBOURNE, *April 8, 1893.*

THE CHINESE POSTAL SYSTEM.

The Chinese have not yet established any Government post-offices or postal system for the masses of the people, though private enterprise has for many years rendered communication easy between the people in all parts of the Empire. This is conducted through what are called "letter shops." No stamps are used, but the "chop" of the keeper of the shop is always placed upon the envelope.

Imperial edicts and other official dispatches are carried from city to city and province to province by couriers, who are, for this country, very expeditious, being in some parts provided with horses at convenient relay stations. Dispatches are thus conveyed in cases of emergency 200 or 250 miles a day. In districts where horses are used each station master is required to keep on hand from ten to twenty horses or donkeys, and the local official is held responsible for all delays that occur. These official couriers are not allowed to convey private dispatches or letters.

At the treaty ports "letter shops" are used by the natives only; but in the interior, or places not reached by the foreign postal arrangements they are employed by foreigners as well, though chiefly by missionaries. These speak well of the system for its security, but do not consider it all that could be desired as respects quickness of delivery. It somewhat resembles our express business, as it transmits parcels of moderate size and weight. It is said to possess two decided advantages over our western system—insurance against loss and monthly settlement of accounts. All letters and parcels to be sent may be registered and insured. When given in at a "letter shop" the contents of an envelope are displayed before it is sealed up and stamped with the "chop" of the shop. Charges for transmission of valuables are made on a percentage of declared value, and, as is the case with letters, differ according to distance to be carried. A receipt is given, and the shopkeeper then becomes responsible either for its safe delivery with unbroken "chop," or seal, at its destination or for its return to the sender. Owing to the competition that exists in all large cities and thickly populated districts, this is necessary if the shopkeeper hopes to keep his patronage. In some parts of the Empire about two-thirds of the expense of transmission is paid by the sender, the remainder being collected from the receiver; thus the shop is secured against entire loss from transient customers, and the sender has some guaranty that his letter will be conveyed with dispatch.

The other feature much appreciated by native merchants is that of keeping an open account with the shop. Charges for service rendered are entered against regular customers, and settlements are made monthly. In case of loss it is seldom necessary to call in the aid of the courts, the force of competition being sufficient to insure reasonable settlement.

There are said to be nearly two hundred letter shops in Shanghai, though in many remote villages there are none. The employés of the several shops are earnest in working up patronage, and go from house to house seeking customers. In the northern provinces, where horses are plentiful and roads more suitable for such travel, the letter-carriers commonly use horses or donkeys, which are supplied at stations about 10 miles apart. Each messenger carries from 70 to 80 pounds of mail matter and travels about 5 miles per hour—much more slowly than the official courier. When the messenger arrives at a station, a few minutes only are allowed to change horses, and he is off again till the end of his route is reached, when the bag is given to a fresh man, who starts at once, no matter what may be the hour of the day or night and regardless of winds, rains, heat, or cold, until he, too, has completed his service and handed the parcel over to a third messenger, and thus it reaches its destination. For short distances and in all the central and southern part of China the messenger travels on foot at a rapid gait.

This service would be liable to highway robbery but that in this country they have a way of compounding such villainy. The robber bands of each district collect blackmail, and for the sums paid them regularly they not only do not molest the messengers themselves, but even agree to keep others

from doing so. Thus the evil of mail or express robbery, common enough in more civilized countries, is recognized as probable and duly provided for. Although, of course, not legal, this practice is quite common and is not far removed from the custom of some other nations in licensing social evils that can not be entirely suppressed. Large firms engaged in the carrying business and in transporting travelers by carts, etc., between given points are in the habit of contracting with the brigands for the safe passage of their goods and customers.

The Taotai Sheng, at Chefoo, at the last winter session of the Polytechnic, offered prizes for the four best essays on "How to Establish a Chinese Imperial Post-Office." There were some fifty competitors, and the prizes were duly delivered. Some of the essayists proposed the enlargement of the courier system, others the use of the offices and employés of the telegraph companies where they exist, and still others plans closely modeled upon western systems. One argument for the establishment of a Government system was based on the large revenue to be secured that now goes into the hands of the English, French, American, Japanese, and German postal agents at the treaty ports. It is well known that large revenue is collected, especially by the Japanese and English offices.

One essayist argued that these Government offices should be established because some years since—during the war with France (1884)—the commanders of the French fleet were accustomed to receive letters of great importance to them through the foreign offices in China, and the Chinese were unable to intercept them, as they might have done had they then had an Imperial Government post-office. Another writer thought branch Chinese post-offices should be established at San Francisco, New York, London, Singapore, Australia, etc., where many Chinese live, just as those countries have their branch offices in every open port in China. Another proposed rates varying with distance and with the value of letters. He also recommended the use of an imperial stamp which should have the symbol of a circling dragon, corresponding with that of the coins now issued in the Kwangtung province, and the words "Chung Kwo Yin Cheng Chu"—*i. e.*, imperial Chinese post-office—and the value of each stamp expressed in Chinese and Manchu characters.

There are two kinds of stamps known among dealers as Chinese stamps. The first of these was introduced by Sir Robert Hart and is used only in the customs service. The other is a local Shanghai stamp used by a company carrying letters about the city of Shanghai and to outposts where there are foreign consuls, chiefly on the Yangtze River and to the ports of Ningpo and Fuchau in the south and Chefoo, Tien-Tsin, and Peking in the north. These two systems are entirely in the hands of foreigners.

Letters, etc., of foreigners are conveyed from China to other nations by the postal systems of the several countries, all consuls being regarded as postmasters for their own countries. Letters may be sent to and from China by the use of the stamps of any country through their respective consuls,

but are only available at treaty ports. Foreigners living in the interior or away from treaty ports must make private arrangements for getting their mail matter from their nearest consul or authorize some Chinese letter shop to transmit matter for them. Letters for American residents in China should never be addressed to other than treaty ports.

SAMUEL L. GRACEY,
Consul.

FUCHAU, *April 8, 1893.*

THE DROUGHT IN GERMANY.

It is generally conceded that the prolonged and still unbroken drought has brought the agricultural interests of central and southern Europe to the verge of disaster.

In the region of Frankfort the last fall of rain occurred on the 5th of March last, and was so limited in quantity that it made almost no impression upon the shrunken springs and streams. In some other parts of Germany the drought has been still more protracted and its effects more severe. At Weimar and in the rich gardening district of Erfurt the last rainfall occurred on the 5th of last November, and the winter in that region, although severe, brought no adequate fall of snow. Substantially the same conditions prevail throughout Italy, France, and almost the whole of Germany and Austria.

The situation has been aggravated by an unusually warm and early spring. The latter half of March and the whole of April were marked by a succession of warm, bright days, which parched the already dry ground and forced the trees and shrubs into premature foliage and blossom; so that now the traveler in Germany meets everywhere the unaccustomed spectacle of green woods and blooming orchards alternating with meadows and pastures as gray and barren as in March or November. Seeds which were planted early in April have either not sprouted at all or have sent up a puny growth that is now withered for lack of moisture. The oat fields are in most cases as barren and dusty as a desert. Rye, which started vigorously with the warm days of early April, has been checked and has commenced to head out prematurely at a height of from 12 to 20 inches; and the peasants, having exhausted their scanty hay supply of last year, have begun, for want of pasturage, to cut their rye as food for cattle. Wheat, except in valleys where the nature of the soil specially favors the retention of moisture, has practically ceased to grow. Warm and copious rains would yet do much to save it and most other of the spring crops; but, unless all conditions are henceforth favorable, the wheat harvest of Germany this summer will be one of the lightest of recent years. But nowhere yet has there occurred, in this region at least, sufficient rainfall to afford any relief; and the weather is still cold, dry, and settled, with a high barometer and no sign of rain.

The early crop of hay, upon which so much dependence was placed after the scanty product of last season, is irretrievably lost. Irrigation has done something in the neighborhood of cities and large towns toward bringing forward a meager yield of early vegetables, but the soil is so dry and the quantity of water required is so out of proportion to the limited supply that the vegetables so produced are few in quantity and costly.

In various ways the abnormal season has affected unfavorably, though thus far not seriously, the public health. For weeks past the air in this region, stirred by persistent east and northeast winds, has been filled with an impalpable dust, which, vitiated by the germs of two successive visitations of influenza, has produced almost an epidemic of lung and throat maladies, usually of a mild type, but varied by occasional cases of rapid and malignant influenza. The death rate in Frankfort and its vicinity, although not alarming, nor affected by any trace of cholera or other epidemic, except the throat and lung troubles already noted, is unusually high for this season of the year.

The important question which physicians and health authorities are discussing is whether the existing climatic conditions are likely to entail any sinister results in respect to cholera. It is perhaps worthy of note that the alarmists cite in support of their fears the fact that the present dry, premature spring is precisely similar to that which in southern France preceded the outbreak of cholera at Marseilles and Toulon in June, 1884, although, so far as is known, no scientific relation of cause and effect between those two circumstances has been established. Another fact which has been generally noticed is that, notwithstanding the unusually warm weather of March and April, certain species of birds, notably the swallows, have appeared late and in greatly diminished numbers. The lateness and scarcity of swallows is attributed to the dearth of flies and gnats, on which they feed; and this, for want of other reasons, is ascribed to the abnormally small proportion of ozone in the atmosphere, which is a fact of established record during the past two months. Ozone is one of the essential elements by which the eggs of insects are vitalized and hatched, and, for the reason that it is equally important to human life, a prolonged lack of it in the atmosphere is generally thought to have the effect of exhausting the vitality of delicate and aged persons and predisposing them to disease. It has been noted in various epidemics that the number of new cases varied from day to day with the direction of the wind and the proportion of ozone in the atmosphere, and attempts have been made to supply the lack of it in the wards of cholera hospitals by artificial means.

It is further urged that the streams, which throughout most European countries carry off the drainage of towns and villages and supply more or less of the water used for domestic and manufacturing purposes, are now shrunken by the prolonged drought into sluggish currents, whose beds are choked and contaminated with the accumulations of several months, which, whether they remain to fester during the heats of summer or are torn up

and swept down by future freshets, must exert a pernicious influence upon public health.

On the other hand, it is assuringly argued that the sanitary organization of Germany is thorough and efficient; that the disaster of last year at Hamburg had the effect of putting the whole Empire into a condition so perfect that at none of the interior points to which the malady was carried by fugitives from the stricken seaport was the epidemic permitted to spread; that the Russian and Polish frontiers are rigidly guarded against invasion by infected immigrants; and, finally, that cholera is a disease now so thoroughly understood and mastered by science that no serious outbreak will be permitted to occur.

The truth will probably be found somewhere between the fears of the pessimists and the confidence of the optimists. That Germany is in a state of alert and careful preparation is true; that the epidemic which brought such costly punishment upon Hamburg and commercially more or less upon the whole of Germany was the result of causes which might have been foreseen and prevented is probably beyond reasonable doubt; and that all the teachings of that bitter lesson will be utilized in the precautions of the coming summer may be accepted as assured.

FRANK H. MASON,
Consul-General.

FRANKFORT, *May 5, 1893.*

THE CULTIVATION OF FLAX.

To a region like Dunfermline, in which the leading industry is the weaving of linen, the culture of flax is of the highest importance; yet Great Britain is largely dependent on other countries for the raw material. Even Ireland does not raise flax enough; although 80,000 acres of productive land were given to its cultivation in 1892, it did not supply one-fourth of the demand made by the single city of Belfast. The raising of flax is, indeed, to a great extent a neglected industry. It requires care, diligence, and labor. But it has the prospect of a better profit than has agriculture in general as now conducted. Scotland is awakening to a realization of this fact, and the United States may well make it the subject of inquiry. The following details concerning flax-growing may prove of general importance.

WHERE FLAX IS GROWN.

There are many varieties of the flax plant, and one or more of these varieties are cultivated by almost all countries in the world. The common species is indigenous to Europe, Asia, and Egypt. Scotland derives her chief supply from Russia, where it is grown more extensively than in any country in the world. In Russia, however, the culture of the plant is conducted with less care and the preparation of the fiber receives less attention than in any other flax-producing country. It is sowed thinly, to give the

plant greater strength and spread. This results in a coarse fiber, and also in an inferior yield. Nor does the crop in Russia receive, in the early stages of its development, that care which is essential to a valuable product.

Germany, Austria, and France come next to Russia as flax-producing countries. In each of these an average area of over 200,000 acres is devoted to this crop. In Holland flax is raised chiefly for the seed. Its cultivation is regulated with this in view. The quality of the fiber is thus injured; but the seed commands a high price, and for agricultural purposes has secured a world-wide reputation. It is the seed chiefly used in Great Britain wherever flax cultivation is attempted.

In Belgium flax is found in the highest state of cultivation. Nothing is there neglected which can increase the quantity as well as the quality of the crop. Rotation, superior tillage, and liberal manuring are all followed with that persistent care which has earned for the Belgians the reputation of being the most successful of all agriculturists. Throughout the country the fields resemble highly cultivated gardens. Here is raised the very finest quality of flax, such as is used in the manufacture of Brussels lace. This care has ample reward, as the product brings in the market from $500 to $1,000 per ton. Indeed, the sale of a single crop of flax will sometimes secure a higher price than would the land on which it was grown. So fine has been the product that a Belgian pound of the raw material has been spun into a thread 4,000 miles long.

Although the soils of England, Scotland, and Ireland are supposed to be equally favorable for the raising of flax, yet it has reached its highest development in Ireland. Irish flax, because of superior culture, commands twice the price of the Russian article. A quantity of dressed flax grown last year in the consular district of Fife brought $450 per ton. No other product of the farmer in these days can show a better return.

A NEW MODE OF PRODUCTION.

To stimulate the cultivation of flax in Scotland an enterprising company has offered to purchase the product delivered at the nearest railway station in the state as taken from the field, without the separation from the fiber. This gives the farmer a quicker sale and avoids the difficulty and the labor of retting, which requires intelligent and patient care. Small patches aggregating about 100 acres are thus used in Fifeshire for this mode of production.

COST OF PRODUCTION.

The average cost of producing an acre of flax in Ireland is between $40 and $45, which includes the cost of retting and scutching. Of course, in Ireland labor of this kind is cheap, the farmer and his family working the land. The return of an English farmer gives the total expenses connected with growing an acre of flax as $40, which realized, as taken off the field, $60. Scotland shows a similar result.

An experiment was made in the north of Scotland on 2 acres of very stiff clay land with an easterly exposure. This test of the profitable nature of the crop was a severe one, the season being very unfavorable and the land of the poorest. The total cost of production, including rent and twenty loads of manure, was $63; and the crop was sold green at the nearest railway station for $100, leaving a profit of $18.50 per acre.

In 1886, 1887, and 1888 experiments were made by Perth bleachers with an average return of $30 per acre. Of course, this was for the unprepared crop as hauled from the field. The same crop properly scutched would, of course, command, as in Ireland, a gross income of from $150 to $200 per acre.

THE CLIMATE NEEDED.

Of course, an American reading this will at once ask, "Is the United States a country where flax can be grown to advantage?" The answer to this is, that there is scarcely another plant which so readily becomes acclimated under different conditions and in so many countries. Generally speaking, it will thrive in the greatest variety of soils. It is true, of course, that the better the land the better the crop of flax. It thrives best in a good, deep, loamy soil; yet it may be raised to advantage on any land not too sandy or peaty or of a cold, stiff, clay nature.

THE SELECTION OF SEED.

To secure a good result the very best seed must be bought, no matter at what cost. A knowledge of the quality of seeds can be gained, it is true, only by experience; but the germinating power can be proved by an easy and very simple test. Let one hundred seeds be planted in a pot, and the power to germinate can be readily demonstrated. It is believed that Dutch or Russian seed, or—what is still better, as is thought—a mixture of both, is the most suitable of imported kinds. Yet, granted a successful crop in any country, it is believed that the seed best adapted for cultivation is the seed of that crop. The Irish Flax Company strongly advocates its own matured seed, and recent tests have shown a maximum germinating power of 100 per cent, which has never yet been reached by any imported kinds. Besides, the careful saving of home seed largely increases the return to the farmer.

WHEN FLAX SHOULD BE SOWN.

The field in which flax is to be sown should, after having been freely manured, be plowed in autumn and allowed to remain in furrow all winter, exposed to the comminuting influences of the frost. In spring it should be plowed, not too deeply, across the furrows, then harrowed and rolled till the soil is fine, flax requiring a firm seed bed. The best time for sowing is when all danger from frost is past. Very fine crops have resulted from sowing early in May.

GENERAL DIRECTIONS.

Not less than 2½ bushels of seed should be sown per acre, and on poor land this quantity may be increased with advantage. The seed should be scattered with all possible regularity, and lightly harrowed and rolled. When the plants are a few inches high, the crop should be carefully weeded. Children or women are usually employed in Europe in this service, working on hands and knees. This should be done when the ground is damp, as it gives the young plant a better chance to recover itself. If the ground is kept very clean, weeding may be unnecessary; but it is usually beneficial.

HARVEST TIME.

When the straw begins to turn yellow, the foliage to droop, and the seeds to change to a pale-brown color, the proper time to pull the flax has arrived. In pulling, the same lengths of straw should be kept as nearly as possible together and tied in small sheaves 5 or 6 inches in diameter. This facilitates the after process. The sheaves should then be set up in the field on their root ends to winnow, after which they are ready for market, unless the grower chooses to scutch and prepare the flax for the spinners' use.

THRASHING AND RIPPLING.

Flax can be thrashed, after being well dried, much in the manner of grain; but much greater care is necessary so as not to break the straw and thus injure the fiber. Sometimes it is put through rollers which, when properly adjusted, pull off the seed bolls. More frequently, however, the seed is removed by a process called rippling, which may be thus described: The small sheaves are repeatedly pulled with a quick motion through an upright iron comb with round teeth about a foot high and an inch apart and with blunt, tapering points. This comb should be firmly fixed to a frame, and on the opposite side to the worker a large box should be placed or a sheet spread on the ground to receive the seed vessels as they fall. The bolls, after being thoroughly dried, can be put through the mill and cleaned.

Experience has shown that the yield of fiber is increased and the seed improved by allowing both to remain in the straw during the winter months and the rippling delayed until the seed is required for the next year's sowing and the retting until the warm weather has set in.

THE RETTING PROCESS.

The process of retting, or rotting off the straw, is by far the most delicate and important process which the crop undergoes. Upon its proper manipulation at this stage depends, to a very considerable extent, the quality of the fiber of the flax. But here is just where the product shows the largest returns. The retting process amply repays all the labor and care expended upon it.

For proper retting soft water is most suitable. Water containing a large proportion of lime or iron is unsuitable. Any water in which soap will not

curdle is soft enough for steeping flax. Where slowly running water is conveniently near it may be used to advantage. Retting is often performed in the rivers of Belgium and Holland, where the flax is steeped in crates or perforated boxes. When running water is not attainable, pits should be dug about 40 feet long, 8 feet wide, and 4 feet deep, this being the size capable of containing the average growth of 1 acre. These pits should be lined with clay to render them water-tight. The flax is then closely packed, root end downwards. A row of sheaves may be placed flat on the top. Boards should then be placed on top well weighted with stones and the whole covered with water to the depth of a few inches above the boards. A week or ten days is sufficient to rot the straw; but, as the time varies with the temperature and nature of the water, great care is necessary.

An easier, but longer, process is to spread the flax thinly on the grass until the fiber parts readily from the woody stem. This latter method prevails in Russia, where the flax industry exceeds that of any other country in the world.

In this district of Scotland it may be stated that, from inquiries among the growers, it appears that three-fourths of the crop has been disposed of in its condition as cut on the field, unretted, and at prices which gave a better result than any other crop on the farm.

JAMES D. REID,
Commercial Agent.

DUNFERMLINE, *May 15, 1893.*

AMERICAN MILLING MACHINERY IN TURKEY.

The Turkish Government has decided upon a measure which is expected to have a good effect on agriculture and mill industry. This is the abolition of the 8 per cent internal import duty which has been hitherto levied on all wheat and flour imported into one Turkish port from another. Of course, this internal 8 per cent duty is still maintained on other articles and breadstuffs; but, as the duty on all articles imported into Turkey is 8 per cent ad valorem, and as wheat and flour produced in the various provinces of the Turkish Empire had to pay the same import duty when transported from one port of the Ottoman dominions to the other, agriculture and mill industry could not prosper. On the contrary, owing to the influx of articles of foreign produce, they suffered immensely, being exposed all the time to great competition.

Mill industry in this capital is in a fair condition, there being ten flour mills in the city and the suburbs of Constantinople, all belonging to private parties, who have entered into an agreement concerning the working of their respective mills. The price agreed upon at present is 6 cents for every bushel of wheat, with the exception of one mill, which charges 7 cents, because it has a new system of machinery, called here the cylinder system, corresponding to the roller system in the United States. Two of these mills

are under the direction of millers who studied milling in America. I am told that another of the mills is adopting the cylinder system. These mills can grind about 22,000 bushels of wheat daily; but they are not all working at the same time, only six being in operation at present. There are, besides, two Government flour mills in this place, which are now under repair and will probably be completed shortly. One of them will have the cylinder system.

Most of the machinery used in all the mills is of English or European make. Very little American machinery has been introduced into them. I think that there is still some good prospect for American manufacturers to introduce their perfected milling machinery into this consular district; and the best manner to do it would be to publish extensive advertisements in the newspapers here in the French, Greek, and Turkish languages. There is a great amount of credit allowed to buyers in this country, and American manufacturers will do well to study this credit system of transacting business in Turkey, in order to be able to arrive at some method of competing with English or other parties doing business in this market.

WILLIAM B. HESS,
Consul-General.

CONSTANTINOPLE, *May 9, 1893.*

THE SARDINE FISHERY OF BRITTANY.

The catching and preservation in oil of the sardine is one of the most important industries of Brittany. Along the coast from Les Sables-d'Olonne (Vendée) to Camaret (Finistère) there are about one hundred and fifty canning factories. During the sardine fishing season, which lasts about five months, 2,500 boats, equipped with from 12,000 to 15,000 sailors, are employed. The employés of the factories number about 10,000 women and children and from 1,500 to 2,000 men. The annual expenditure for labor, material, etc., amounts to about $3,875,000.

This industry originated at Nantes in the year 1834, and the best brands are still those of that city. These brands are imitated in Spain and Portugal, but are of inferior quality, owing to the use of Spanish, instead of Italian, oil.

METHOD OF CATCHING THE FISH.

The sardine is a migratory fish which first appears on the coast of Africa, passing northward in large shoals, following the coast of Portugal, crossing the Bay of Biscay, and striking the coasts of Vendée in the month of April or May. Here the sardine is met by fishermen stationed at the seaport town of l'Isle-d'-Yéu, and in the bays of the Sables-d'Olonne and of Saint-Gilles, who assemble from all parts of Brittany and follow the fish toward the north, retarding its progress with a special bait called "roque."

Before daybreak the fishing boats leave port to search for the shoals of *sardines;* many leave in the evening and anchor at sea. When a peculiar

bubbling of the water reveals the fish, the nets are immediately thrown. Each net is from 900 to 1,000 yards in length, about 3 yards in width, and black in color. On the upper part of the net are cork floats, on the lower part leaden sinkers to keep the net in an upright position.

The oarsmen, generally two in number, row always either against the wind or the tide. One man casts the net as the boat advances, while another throws the "roque" into the water. This bait is an important feature of the sardine catch, as it is quite expensive, and fishermen often lose a considerable quantity. It is made of the eggs of codfish or mackerel mixed with clay and costs from $7 to $17 per barrel. That made of mackerel eggs is superior.

This bait is thrown into the water in small balls, which slowly dissolve and sink.

At nightfall the boats return to port, where they sell their fish to the canners at prices varying according to the abundance of the catch and the size and freshness of the fish. Sales are made by the "thousand," but this term does not always indicate exactly a thousand sardines. For example, at Belle Isle 1,240 fish make a thousand. Factories for preserving sardines are located at all the ports, for the fish spoil easily and can not bear transportation. The fishermen convey the sardines to the factories in baskets.

PROCESS OF CANNING SARDINES.

The sardines are spread on floors and salted and the heads removed. They are then thrown into brine, where they remain half an hour. They are next washed in clear water and dried on screens. This work is done almost entirely by the wives and children of the fishermen, their united wages during the fishing season enabling the family to subsist during the following winter.

After the fish have been thoroughly dried they are cooked by dipping them for a few minutes in oil heated to 100° C. (212° F.). They are again drained and handed over to workmen, who pack them in small tin boxes, which are filled with pure olive oil and then soldered. The oil used is imported from the province of Bari, Italy. The boxes are next thrown into hot water, where they remain from two to three hours, according to the size of the boxes. When withdrawn the boxes are first cooled, then rubbed with sawdust to cleanse and polish them, and packed in wooden cases of one hundred boxes for shipment.

During their immersion in the boiling water oil will escape from all boxes not properly soldered. In such cases the loss is sustained by the solderer. A good workman rarely misses more than two or three boxes per hundred.

A quality of sardine called "boneless sardines" is prepared especially for the New York market by factories at Concarneau and Douarnenez. Their preparation requires special care, and they command a high price.

Sardines in oil are sometimes mixed with truffles. They are also prepared with tomatoes and sent in small quantities to the New York market, but the

chief export in this form is to Mexico. Sardines are also preserved in butter and in vinegar. Sardines preserved in butter are good; but, as the butter is generally of inferior quality, it is necessary to remove it from the sardine before serving. Another inconvenience is that the box must be heated to melt the butter, so that the sardine can be removed entire. Sardines preserved in vinegar require to be washed before using. The addition of oil renders the fish more palatable, though the sardine retains the taste of the vinegar and its flavor is partly destroyed.

EXPORTS OF SARDINES IN OIL TO THE UNITED STATES.

A large quantity of sardines in oil, as a rule of good quality and medium size, is exported to the United States. They are generally put up in quarter boxes, designated as *quart bas* and *quart americain*. The *quart bas* contains from ten to twelve fish; the *quart americain* from twelve to eighteen. The exports by the canners during the year 1892 were as follows:

Nantes	$334,630.02
Brest	28,664.01
L'Orient	62,854.33
Total	426,148.36

These figures do not represent the actual exports, for many canners sell to commission houses at Paris, Bordeaux, Havre, London, etc., who ship to the United States and other countries.

MARKET PRICE.

The average prices for the past five years are as follows per case of one hundred boxes: *Quart bas*, $6.75; *quart americain*, $9.65. These prices are paid for goods delivered free of charge at Havre or Bordeaux on presentation of bill of lading accompanied by consular certificate.

Sardines are usually sent via Havre to New York. The Compagnie Générale Transatlantique charges $7 per ton and the American-Hamburg line about $6. From Bordeaux to New York the Compagnie Bordelaise charges $7 per ton. Shipments are also made by the Harrison line via Liverpool at rates somewhat below the above figures, but the accommodations of this line are inferior.

H. DE SALLIER-DUPIN,
Consul.

NANTES, *April 29, 1893.*

MATANZAS SUGAR CROP.

The total receipts of sugar in all the warehouses of the island up to and including the 30th of April, 1893, were 664,605 tons. The receipts for the corresponding period last year were 679,971 tons. It appears, however, that last year the mills generally operated through May and many well into June; that the product of those two months was 297,000 tons;

and that this year a large majority of the mills had ceased to grind previous to April 30, many by the first of April, and nearly all are now stopped. It is estimated that the entire product after the 30th of April of this year can not exceed 100,000 tons. Upon this estimate, undoubtedly very close to the truth, the total product of the current year would be 764,605 tons, against 976,971 tons in the previous year—a shrinkage of 212,366 tons, or about 22 per cent.

The causes which have led to this important shrinkage are a lack of the usual amount of rain in the spring of 1892, the unprecedented floods of June, and the drought which again succeeded.

Exportations for the same period this year were 407,500 tons, against 413,664 tons last year. Upon the above estimate there remained, therefore, only 357,105 tons to be exported subsequently to the 30th of April, against 563,307 tons last year.

The stock now on hand is, as a rule, held for higher prices.

The result has been very disastrous to the interests of American sailing vessels, which have heretofore done a considerable, but, I am sorry to say, constantly decreasing, portion of this carrying trade. Exporters have not been, in some instances, able to load steamships which they had long ago chartered in expectation of having plenty of sugar for them, as well as for the usual fleet of sailing vessels which put in here at a venture at this season. The result is that scarcely a sailing vessel has been able to charter here in the last month, and many have left in ballast. As good a schooner as plows the seas came here from Portland, Me., loaded with "bungholes," as empty hogsheads are usually termed, at a nominal price, and, after lying here seventeen days in a vain attempt to charter, left with "swept holds."

Nearly all of what remains of this crop must be carried by steamships.

ELIAS H. CHENEY,
Consul.

MATANZAS, *May 10, 1893.*

EMBROIDERY INDUSTRY OF ST. GALL.

Eastern Switzerland manufactures annually nearly $20,000,000 worth of machine-made embroideries. The United States alone have imported as high as $7,700,000 worth of these articles in a single year, and the business seems to be increasing.

For nearly one hundred years St. Gall was the center of the manufacture of the celebrated Swiss hand embroideries. Machines for producing embroideries were introduced into Switzerland at the close of the first quarter of this century. Beautiful and cheap as were the hand embroideries, the machine-made article soon began to take their place, and to-day not more than 5 per cent of the world's embroideries are made by hand.

The machines are still operated by hand, but steam machines have recently been invented. How far these machines may prove successful remains to be seen. At present they are being thoroughly tested by experts. Opinions differ in regard to them, but there is scarcely a doubt that in the near future they will revolutionize the embroidery business and drive the hand machines out of the trade.

There are about twenty-four thousand hand embroidery machines in use in eastern Switzerland. Each machine has about two hundred and fifty needles, and each needle averages not less than two thousand stitches daily. The average daily wages of an embroiderer operating one of these machines is about 50 cents.

A short sketch of the development of the machine-embroidery industry in Switzerland may be of interest to Americans, who are to-day the largest consumers of embroidered goods.

To a recent pamphlet published by the embroidery house of Hoffmann, Huber & Co., at St. Gall, I am indebted for many of the statements of this report.

HISTORY OF MACHINE-MADE EMBROIDERIES.

In the year 1827 two embroidery machines made by the inventor Heilman were purchased by M. Menz, of St. Gall, and set up in a small workshop near his dwelling house. Attempts to manufacture marketable embroideries with these machines were unsuccessful until 1850, when a number of improvements were made by Francis E. Rittmeyer. The Heilman machines, which had been introduced in Vienna, Barcelona, London, St. Petersburg, Turin, and Saxony, all proved failures.

The first machine-made embroidery was exported in 1854 to America, where it was sold under the name "Hamburgs." A flourishing trade in embroidered goods was interrupted by the civil war in America, but was resumed and extended after 1865. In the meantime the machines had been perfected so as to allow of the manufacture of figured and dotted patterns of curtains and other goods.

The great American demand for Swiss embroideries resulted in a general increase in the number and output of the factories in this district. From 1865 to 1875 was the period of the greatest prosperity of this industry in eastern Switzerland. Wages were high, and workingmen were attracted from other trades and other parts of the country.

In 1872 the Appenzwell brocades and damasks and the chain-stitch curtain embroideries were beginning to be driven out of the market by the competition of the English lace-workers of Nottingham.

The invention of the one-needle, chain-stitch machine and its introduction into Germany brought further competition of an inferior product at greatly lower prices.

The embroidery industry gradually became diverted from large factories to the houses of operatives, where one or two machines were run for very long hours. The goods thus produced were sold at prices below those of the

large manufacturers, forcing the latter to retire from business. The trade fell into the hands of the merchants, who furnished patterns and disposed of the goods turned out by the embroiderers at their homes.

In the spring of 1876 there came a general reaction, caused mainly by overproduction. Wages of embroiderers fell over 40 per cent, and have never since reached their former figures.

In 1882 a short period of prosperity resulted from a change in the fashions, which caused an increased demand for certain styles of lace goods; but an overproduction of these lines soon followed, and again many factories were closed.

About this time the "shuttle machine," on which tulle embroideries are cheaply manufactured was invented, and has since competed seriously with the older machines. The most noticeable of recent changes has been the enormous increase in the number of lace handkerchiefs exported to America, as many as 700,000 dozens having been sold in a single year. New effects in chain-stitch imitations of old lace patterns have also proved very popular, and have regained a portion of the former markets for curtains. The inventive genius of the Swiss, stimulated by the intense competition of other countries, is constantly devising new designs and styles of lace goods; and, although there may again be periods of depression in some branches of the industry, the prospects for its continued prosperity seem very encouraging.

S. H. M. BYERS,
Consul-General.

ST. GALL, *May 8, 1893.*

DECLARED EXPORTS FROM AUSTRIA-HUNGARY.

I transmit a statement showing the value of declared exports from the consular districts of Austria-Hungary to the United States during the quarter ended March 31, 1893:

Quarter ended March 31, 1893	*$3,184,993.31
Same quarter in 1892	1,417,507.36
Increase	1,767,485.95

The total value of the export and its increase were distributed among the various consulates as follows:

Consular district.	Value of export.	Increase.
Buda-Pesth	$524,262.33	$470,871.78
Prague	910,762.09	509,108.28
Reichenberg	482,188.65	177,671.50
Trieste	392,674.90	237,262.86
Vienna	875,105.34	372,571.53

* The florin was computed at the fixed rate of 40.6 cents.

The following articles show an increase:

Articles.	Increase.	Articles.	Increase.
Albumen	$2,400	Leather goods	$56,500
Art, works of	5,200	Linen goods	34,600
Artificial flowers	4,500	Meerschaum, crude	10,400
Baskets	4,600	Metal goods	15,100
Beans and lentils	490,200	Mineral water	13,500
Bed feathers	65,300	Mirror glass	4,500
Beer	4,300	Musical instruments	1,800
Beet-root sugar	51,000	Oils, paints, and colors	83,600
Books and papers	3,100	Ozocerite and ceresin	3,400
Buttons	20,500	Paper goods	8,400
Chenilles and embroideries	6,300	Porcelain and pottery	37,300
Cloth and woolen goods	11,500	Polishing earth	1,500
Cotton goods	31,000	Potash	4,500
Cutlery	1,900	Pulp	26,900
Cuttle bone	200	Seeds	1,000
Fans	31,000	Shell and bone goods	17,800
Fruits (dried, etc.)	116,000	Silks	9,300
Glassware	54,700	Skeletons	300
Gloves	24,100	Smokers' articles	4,100
Hair, human	1,500	Toys	800
Herbs, roots, and leaves	32,300	Umbrella fixtures and sticks	26,900
Hops and lupuline	25,500	Wines and liquors	600
Jewelry	84,000	Wool	56,700
Leather and skins	127.100	Miscellaneous	10,400

The following articles show a decrease:

Articles.	Decrease.	Articles.	Decrease.
Amber	$800	Insect powder and flower	$4,500
Brushes and bristles	3,500	Scientific instruments	1,500
Drugs and chemicals	12,700	Wax figures	400
Furniture	3,700	White lead	300
Gum and glue	6,400	Wooden goods	1,600
Hair, animal	5,200		

The following articles (with their values enumerated) in the list of declared exports of the first quarter of 1893 did not appear in that of the same quarter of the preceding years:

Articles.	Value.	Articles.	Value.
Argols	$4,100	Shoes and boots	$3,700
Black lead	6,400	Sparterre	2,800
Carbon lights	6,500	Stained glass	1,800
Carlsbad Sprudel salt	28,800	Stationery	5,400
Carriages	400	Tallow, pressed	9,200
Dresses	1,800	Velvets	1,600
Furs	1,700		

JULIUS GOLDSCHMIDT,
Consul-General.

VIENNA, *March 28, 1893.*

A WINE CELLAR IN FRANCE.

The culture of the grape in the United States is now so well understood that grape-growers have little to learn from the Old World; but in the matter of vinification, particularly the making of common wine—"vin ordinaire"—our countrymen could profit by a careful study of European methods.

A description of one of the most perfect wine cellars of this district is found in the Progrès Agricole, of Montpellier. The right of reproduction of the article was, however, expressly reserved, but its authors have kindly consented to my making use of their article.* In so doing I have abbreviated their work, and have changed the French weights and measures into their corresponding English terms.

The substitution of common wine—*i. e.*, wine costing from 10 to 20 cents per quart and of only 10° in strength—for spirits and beer would be beneficial to our people, particularly so if used only at meals.

The following method of making wine that is both reasonably good and cheap, as is the wine of Provence, is herewith explained from the work of Messrs. Ferrouillat and Charvet.

The Rochet estate, situated at a distance of nearly 2 miles to the north-east of Montpellier, belongs to the family of Mr. Camille Saint-Pierre, formerly director of the school of argriculture of that town.

THE VINEYARD.

The vineyard on this estate is in a plain and is 123½ acres in area. The soil is known by geologists as Montpellier sand. The vineyard is rectangular in shape, with the buildings in the middle. The vines are American plants and are grafted on Jaquez stocks. The grafted plants are Aramon (taking up two-thirds of the vineyard), Bouschet, Aspirans, Carignanes, Cinsauts, Piquepouls, Clairettes, etc. The vegetation is magnificent.

The mean production is 1,056 to 1,320 gallons per acre—a total for the estate of 132,000 to 165,000 gallons.

The distance between the rows of plants is over 5 feet. By means of ingenious distribution of cart tracks among the vines it is never necessary to cross more than thirty-five rows of vines before coming to a track, and carts are never obliged to turn around in order to come back. This disposition facilitates all the work that has to be done, whether grape-gathering or manuring; the carts enter on one side and go out on the other, wherever the piece of ground may be or whatever its position with respect to the main

* The following is the letter of permission from the editor of the Progrès Agricole:

"MONTPELLIER, *April 23, 1893.*

"SIR: You are at liberty to make whatever use you please of MM. Ferrouillat's and Charvet's work.

"All we wish is that, as it is to be published later in a separate volume, it may not be made use of in France.

"I am, etc.,

"L. DEGRULLY."

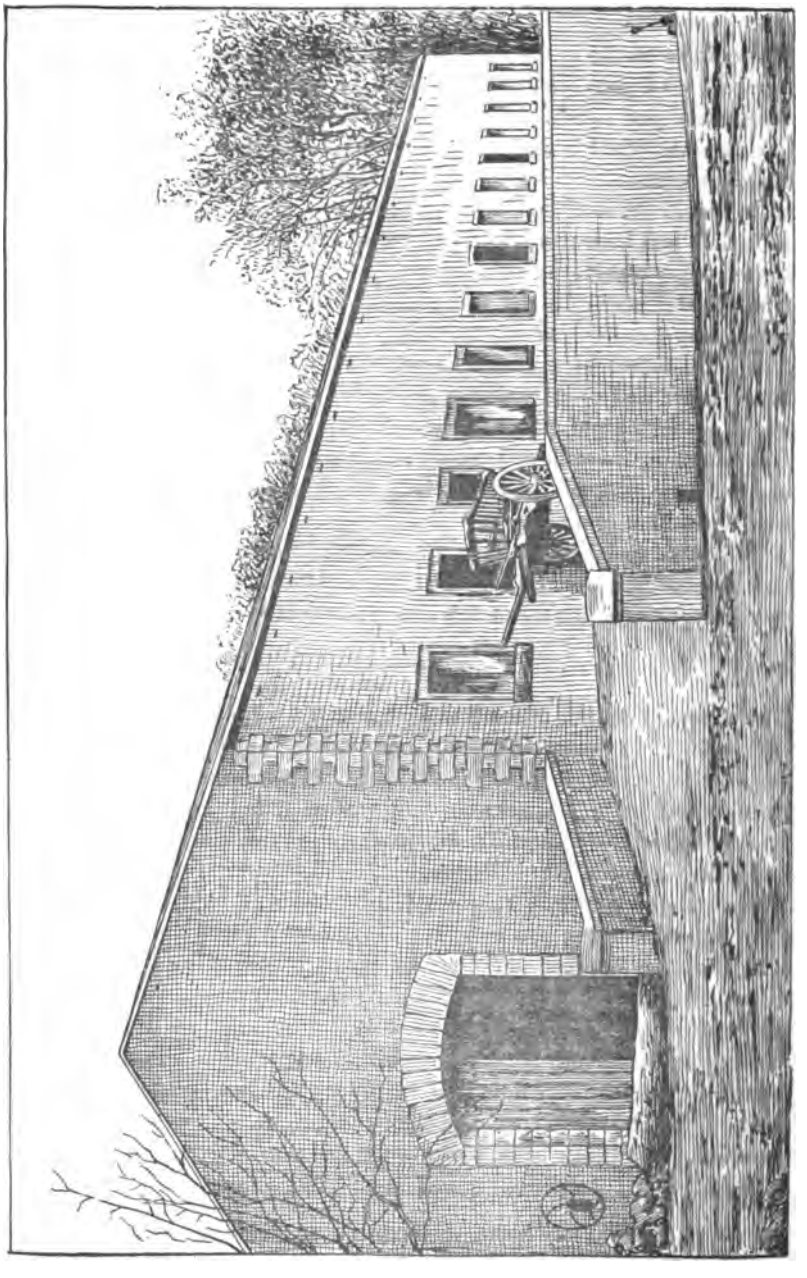

FIG. 1.—The Rochet wine cellar.

cart tracks. Besides, the laborers have never more than thirty-five rows of vines to pass by—a distance of about 65 yards—before coming to a track.

The tracks among the vines are only 5 feet 10 inches in width, while the main tracks round the vineyards are 8 feet 9 inches wide, to admit of the cultivating instruments and large sprayers being turned round easily.

The normal product of the estate is red wine; but, according to the demand, a portion of the vintage can always be made into white wine. Of late years the prices obtained have been from 17½ to 27 cents per gallon, or 3½ to 4 cents per gallon above the price obtained for the wines from neighboring vineyards. This increased value is due to the care bestowed on the making of the wine, and also to the excellent arrangements of the cellar and the good condition in which the buildings, apparatus, etc., are kept.

THE GRAPE HARVEST.

The grape harvest lasts about fifteen days. The actual gathering of the grapes is effected by two bands of 24 to 27 women each, who are served by porters, there being one porter to every three grape-gatherers. One woman can cut in a day enough grapes to make a *muid*, or 154 gallons, of wine in plantations of normal growth, but if the vines are old or the plantation not of full growth, only half that quantity.

The porters throw the grapes into the *pastières*, in which they are taken to the cellar. Each *pastière* is drawn by two animals in charge of a driver, and three *pastières* serve each band of women. The *pastières* are made of cloth, are light, easy to handle, and are readily adapted to the carts they are to be used on. On the framework of each *charrette* that is to be transformed into a *pastière* two sides formed of upright stakes, with a rail along the top, are attached, each of these sides being 8 feet 5 inches long and 3 feet 3 inches high. A similarly formed back and front connect the extremities of these sides, which are 2 feet 9 inches apart, forming a cart with sides of open paling work. The *pastière* cloth that is to hold the grapes is provided with eyelet holes round its edges fitted to hooks, with which the top railing of the cart is provided, so that the cloth lines the cart. The price of each such cloth is about $10.62, and it will hold from 1 ton 9 cwts. to 1 ton 19 cwts. of grapes. As the *pastière* on its arrival at the cellar is emptied by shovels, a plank with the two extremities slightly curved up is placed inside the cloth to protect it from the shovels. A *pastière* ready for use is seen by the side of the cellar in Fig. 1.

THE WINE CELLAR.

The Rochet cellar is the type generally adopted in Languedoc. It is a "longitudinal, inclined-plane cellar," *i. e.*, a cellar provided with a raised track running along the exterior of one of its long sides nearly on a level with the tops of the wine tuns in the cellar, and communicating with the yard round the building by an inclined plane (*DE*, Fig. 2), whence its name. On it the *pastières* are taken up to the raised track, and the discharge of the grapes into the wine tuns is rendered very simple.

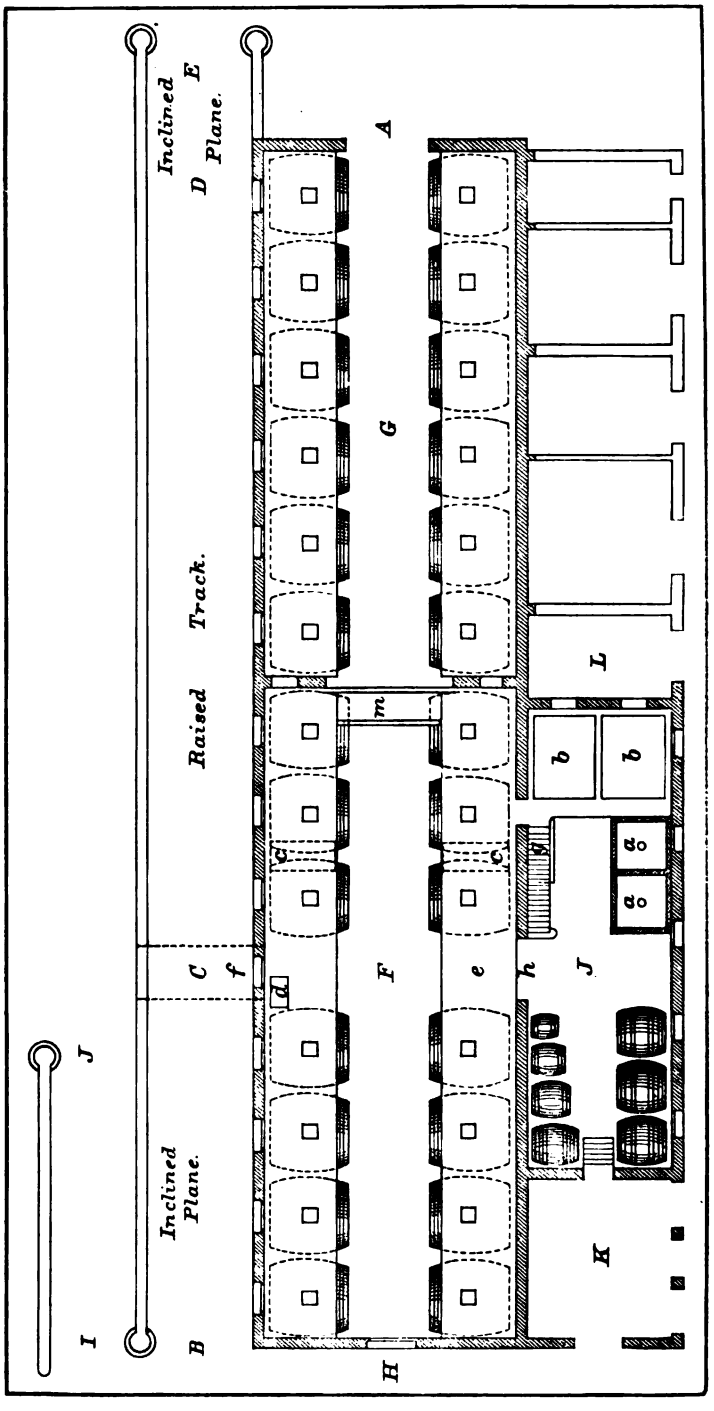

FIG. 2.—Ground plan of building and raised track (the Rochet cellar).

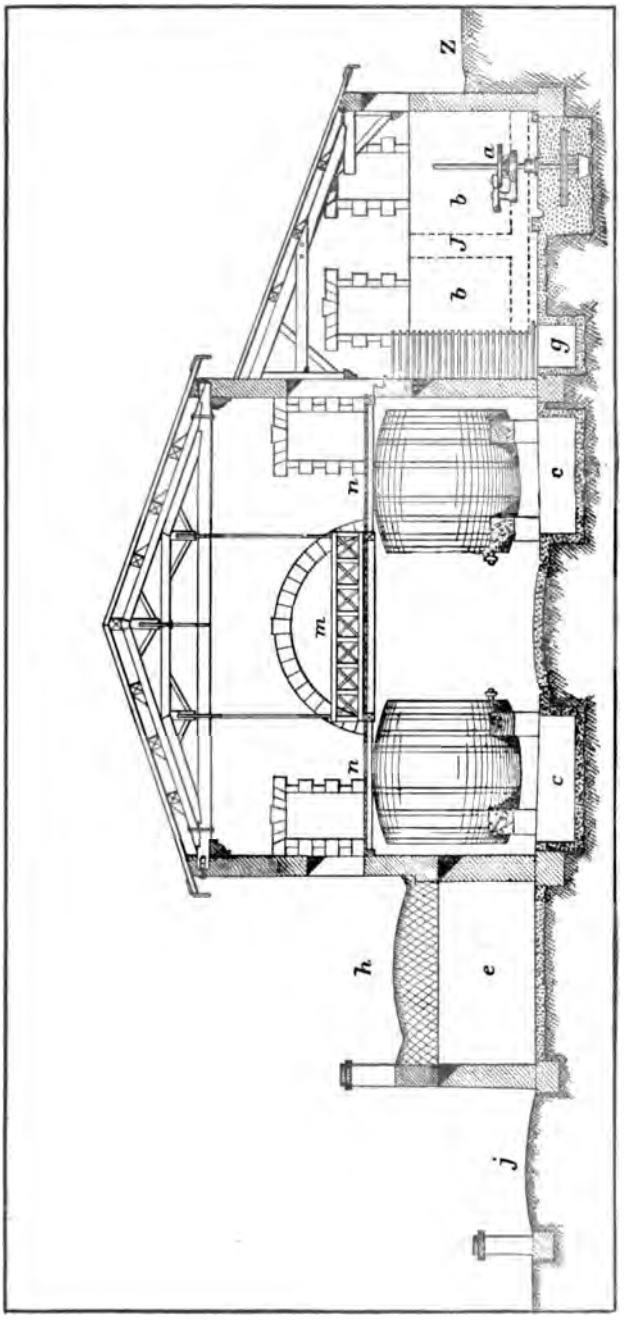

FIG. 3.—Elevation of portion marked *F* in Fig. 2 (the Rochet cellar).

This system is extremely convenient, as it does away with the necessity of elevators for the grapes; but it is not always possible to construct the raised track economically. If, for example, the cellar can not be constructed against some sloping bank, out of which the track can be cut, and it has to be built either of stones or earth or in solid masonry, it is often preferable to adopt some other system of elevation. On the Rochet estate the slope of the ground has been favorable to the construction of a raised track and inclined plane; so that the raised track serving the wine tuns is not very high, and the approach leading up to it is short and of slight gradient (see elevation, Fig. 3).

The general disposition of the cellar may be seen very well in Fig. 2, which gives a plan of the whole construction, showing the raised track at *CD*, with one inclined plane at *DE* and another at *BC*. In the elevation (Fig. 3) it is seen that the floor of the cellar is slightly below the level of the surrounding ground, as shown at *Z*. The inclined planes are only a few yards in length. The windows opening onto the track in front of each wine tun are 3 feet 11 inches above the track, average height—*i. e.*, those at the extremities, where the inclined planes commence, are 4 feet 5 inches above the surface, while those in the middle are 3 feet 3 inches.

The raised track and approach have a width of 16 feet 4 inches, large enough for two carts to pass, and are supported by an outer wall 1 foot 7½ inches thick. The *pastières* arrive laden, some by the inclined plane *ED*, and after discharging go on in the same direction and leave the track by the other plane *IJ*, 13 feet 1½ inches wide only; while others, coming from the northern portion of the vineyard, enter at the end marked *B* and leave, after discharging, by the plane *DE*. (See Fig. 2.)

The longitudinal, inclined-plane cellar is desirable not only on account of the facilities which it offers for the ingathering of the grape harvest, but also because it is very much easier—if the cellar be built with the raised track protecting that portion of the building which is exposed to the south or east—to keep the interior cool and avoid a sudden rise of temperature. The Rochet cellar lies to the northwest and southeast, with the inclined plane and track on the east side. The great doorway faces nearly due south, and the west side is protected by lean-to buildings. Owing to these dispositions, it is extremely cool, and so much the more so because it is slightly below the level of the surrounding ground.

The cellar forms a rectangle 185 feet 3 inches long by 39 feet in width, inside measurement, divided into two portions (*F* and *G*, Fig. 2) by a partition wall, which was formerly the boundary of the old building. A large and high opening in the wall affords communication between the two portions of the cellar. On the opposite side of the raised track a lean-to building contains the presses (see Fig. 2, *a a*), two stone basins (*b b*) for making *piquette*, and a few tuns of small capacity. In the main building are situated the large tuns, twenty-six in number, having an average capacity of 6,600 gallons. They are arranged in two rows of thirteen along each of the outer walls.

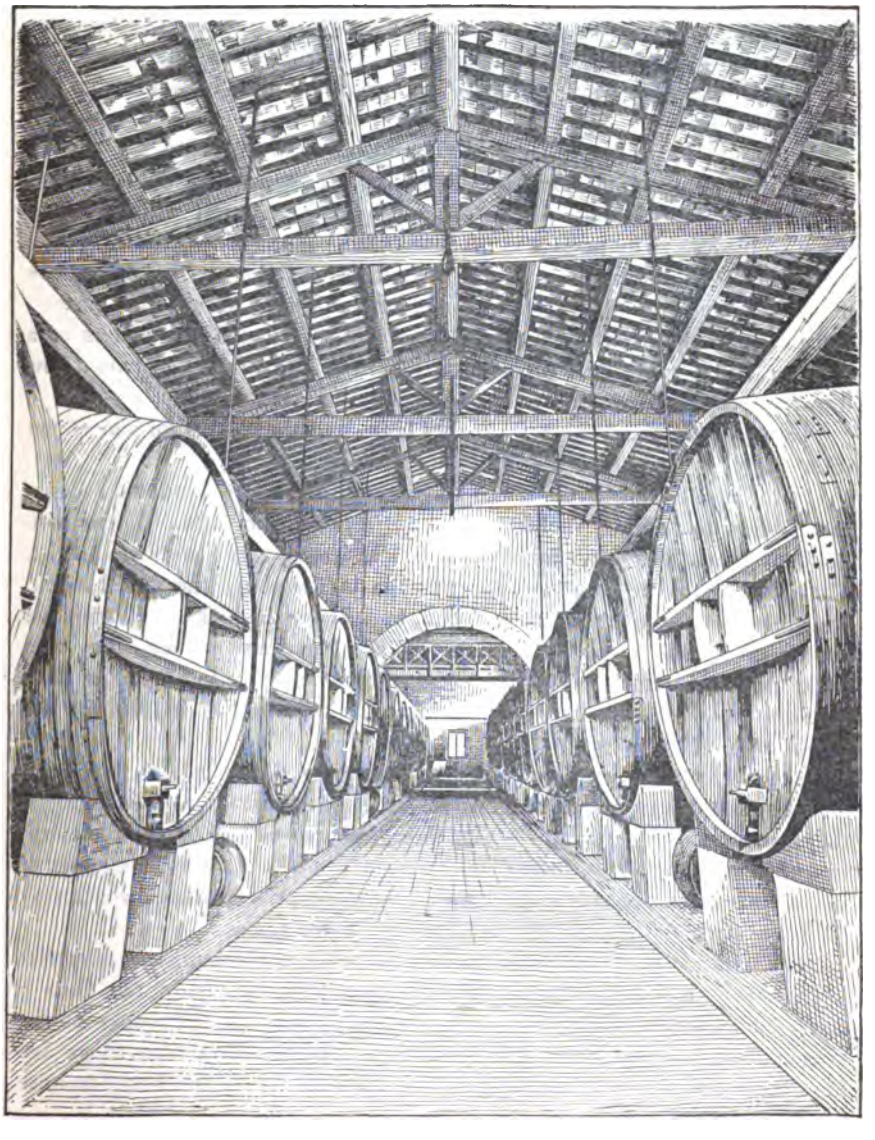

FIG. 4.—View of the interior of the Rochet cellar.

The floor of the cellar consists of a glacis of cement over concrete. Before laying this floor care was taken to drain the subsoil, so that it should be thoroughly free from any risk of damp. The system of drainage consists of two trenches running parallel to the long sides of the building, from 1 foot 4 inches to 2 feet deep, filled with flints. They meet at one end of the building and open on the exterior into a flow-off ditch. The receptacles *c c* (Fig. 3) have a layer of cement both on their outer and inner surfaces, this precaution being necessary to prevent an influx of water from the surrounding soil.

On either side of the cellar 13 feet 4 inches is devoted to the row of tuns, a passage in the middle 12 feet 4 inches wide separating the two rows, this width being sufficient to admit of a tun being removed without being taken to pieces. The passage is provided with a gutter on either side 2¼ inches in width sloping down to the receptacles *c c* (Fig. 3). The surface of the passage is rounded, sloping down on each side toward the gutters, and the floor underneath each row of tuns inclines toward the gutters at a slope of 1.6 in 100. Any wine that is lost from one of the tuns would flow into the receptacles *c c*, and would be extracted by the pumps.

The walls are about 29 feet 3 inches high, and the roof is formed of flat interjoining bricks, covered with hollow Marseilles tiles.

In the wall alongside the raised track are a number of windows 4 feet 3 inches wide and 4 feet 7 inches high—one opposite each tun. These windows are too small; they should have been at least 5 feet 6 inches in height. The window sills are on an average 3 feet 11 inches above the raised track, and are on a level with the interior plank walk above the tuns. The windows are closed by solid wooden shutters. When these are opened, they fold back against the thickness of the wall, and not over onto its outer face. These windows serve to light and ventilate the building, as well as for the reception of the grapes.

Each of the tuns, made of oak and containing 6,600 gallons, is placed on a wooden framework resting on four limestone blocks. A peculiarity in the construction of these tuns is that the groove in the front face of the tun, in which the door slides, instead of being in one of the staves, is cut out of two of them, the object being to have a larger opening without weakening the framework of the door or warping the head of the tun.

The tuns are 12 feet in length; their diameter at the bunghole is 11 feet 4½ inches. The combing is 2 feet 10 inches, and the tap in the door 3 feet 3 inches above the ground. The distance between the backs of the tuns and the wall is 1 foot 2 inches, which is sufficient for a man to go behind them, and allows of a lifting jack being used if it be necessary to raise a tun for repairs, etc.

On top of the tuns is a plank walk 11 feet 6½ inches wide (Fig. 3, *n n*), which enables the employés to get about easily and also to fill the tuns with the grapes. Near the partition wall there is a wooden cross bridge (*m*, Figs. 2 and 3), by which one can get from the top of one row of tuns to the

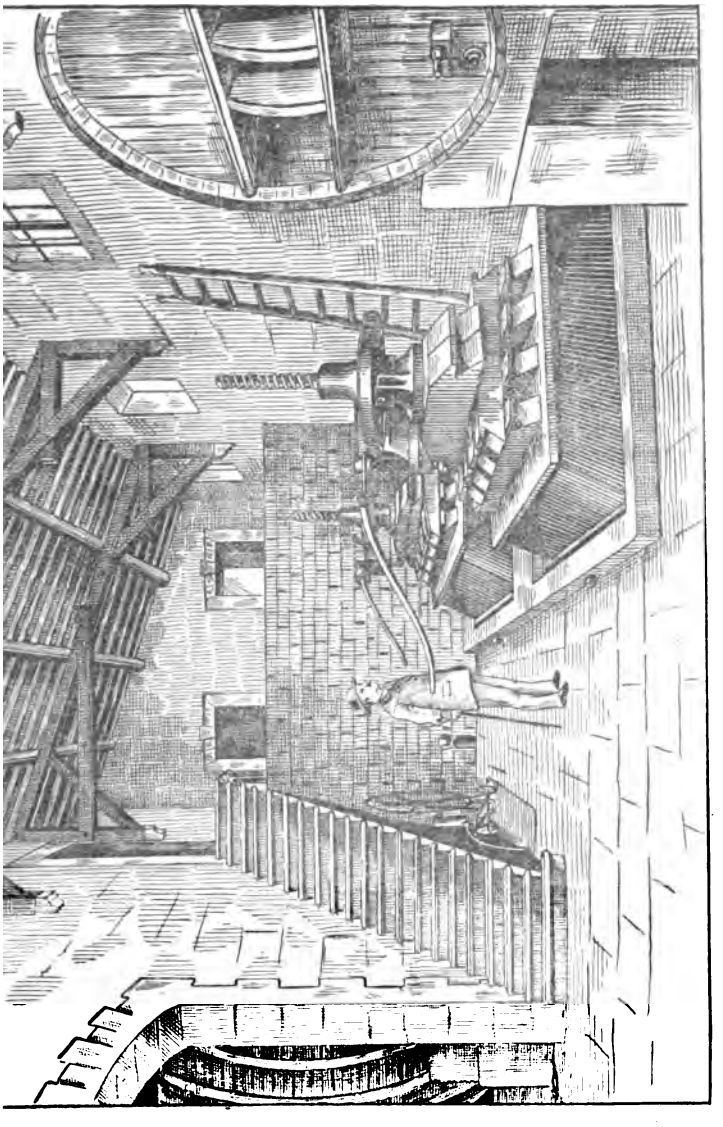

FIG. 5.—View of the press room in the Rochet cellar.

other, a staircase leading up to the bridge being established in the press room.

Fig. 4 gives a representation of the portion of the cellar marked *F* in Fig. 2, showing the roadway with gutters on either side, the arch in the partition wall between the two portions of the cellar, cross bridge uniting the plank walks over the tuns, and other details.

The press room is shown at *J* in Figs. 2 and 3, and also in Fig. 5. It is a lean-to building 71 feet 4 inches long and 22 feet 9 inches wide, communicating with the cellar by a large doorway (*h*, Fig. 2) and with a yard (*K*, Fig. 2) by another opening, reached by a few steps. Four windows in the outer wall give light to this portion of the building. At one end are two basins in stonework (*b b*, Fig. 2), which are used for the manufacture of *piquette* from the *marc*, or crushed grapes. The presses are shown at *a a* (Fig. 2), and near them are seven tuns, three of 1,540 gallons capacity and the others not so large. These are used for decanting. At *g* (Figs. 2 and 3) there is a receptacle for the wine that flows from the presses. It is sunk underground, under the staircase leading up to the bridge between the plank walks on the tops of the tuns, and communicates by an overflow pipe with one of the receptacles *c* of the portion *F* of the main building.

Beyond the press room is a row of lean-to buildings, which serve as stables, tool rooms, etc., and protect the cellar against the weather.

The basins *b b* are each 14 feet long, 9 feet 7 inches wide, 8 feet 3 inches deep, giving a capacity of about 7,040 gallons. They are built on a foundation of concrete. Their sides are 11½ inches thick, with the exception of the wall between them, which is 1 foot 5½ inches thick.

The presses, two in number, are on Mabille's system, and are shown in Fig. 5. The receptacle into which the wine flows is 10 feet 1 inch by 4 feet 3 inches in surface and 3 feet 3 inches in depth, and is lined with cement. It is emptied by means of a pump mounted on wheels, two of which are used here. Two men with one of them can lift 1,320 gallons of wine in one hour.

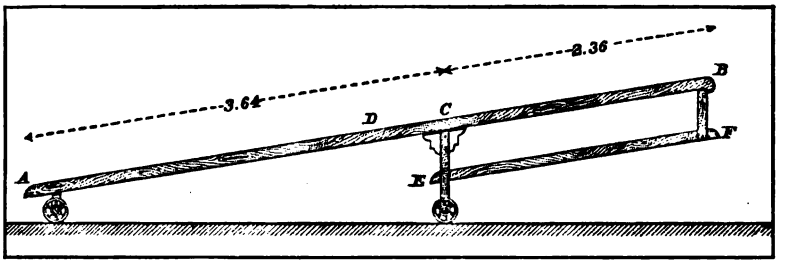

FIG. 6.—Clareton's tube-carrier (the Rochet cellar).

In order to easily transport the lengths of tube from one part of the cellar to another, an ingenious tube-carrier has been devised, an illustration of which is given in Fig. 6. It consists of a table with a raised rim supported by two wheels on an upright. This arrangement permits the end

furthest removed from the wheels to rest on the ground. The tubes are laid out along the table (*AB*) and in this position drain out easily. A smaller table (*EF*) under the other supports the shorter lengths of tubing.

When a *pastière* arrives from the vineyard it is first weighed and then passes up the inclined plane and along the raised track till it arrives opposite the window of the tun to be filled. At Rochet, as in most of the neighboring vineyards, the wine is fermented in the tuns.

The opening in the top of the tun is provided with a large tin funnel, and above this is a rammer worked by hand. A wooden inclined trough extends from the *pastière* down to the hopper of the ramming apparatus. The unloading is effected by three men, one of whom, with feet and legs bare, mounts onto the *pastière* and throws the fruit into the wooden trough; the second rakes the fruit down the trough, while the third works the rammer. It takes from fifteen to twenty minutes to empty a *pastière*. Two tuns are filled daily. The fermentation lasts four or five days.

The decanting is done as follows: The tun containing the grapes is connected by a tube with an empty tun; the difference of level causes the wine to half fill the second tun, and the remaining half is transferred by pumps; this done, the sliding door in the front of the first tun is opened and a man enters and forces the *marc* out with a sort of hoe; an employé outside loads the *marc* on handbarrows, which are wheeled off to the presses, where two more pile up the mass to be pressed.

The *marc* is pressed till the wine ceases to flow, and then is cut up and pressed again, and this operation is repeated, making three pressings in all. For the last pressing the *marc* is left in the press nearly twenty-four hours. One press will contain the *marc* out of one tun, and, as two tuns are decanted daily, the presses are constantly occupied.

The *marc* is then taken out of the presses and placed in the stone basins (*b b*, Fig. 2). Water is added, and the mixture is left for three or four days. In order that the *piquette*, or liquid, obtained may have a little more flavor, the pressed wine of the last two tuns is added to it. This *piquette* is consumed by the vineyard hands.

The wine that has escaped from the tuns during decantation, etc., and flowed into the receptacles *c c* (Fig. 3) is drawn out by the pumps and added to the newly gathered grapes, with which it is fermented anew.

The total cost of building and fitting up the Rochet cellar has been estimated as follows:

Building materials and expenses	$4,225.47
Timber and carpenters' work	1,151.40
Roofing	837.89
Flooring, staircase, locks, tun stands, painting, etc.	1,351.92
Tuns, receptacles (*c c*, Fig. 3), stone basins (*b b*, Fig. 2), etc.	9,168.33
Presses, pumps, tubing, and rammer	1,090.96
Total	17,825.97

In conclusion, I subjoin the following table, showing the yield of certain vintages in 1889:

Vintage.	Wine.	Pressed wine.	Marc.	Waste.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Petit Bouschet	60	19	13	8
Aramon	63.5	17	11	8.5
Jacquez	50	22	19	9

CHARLES B. TRAIL,
Consul.

MARSEILLES, *May 9, 1893.*

NEW MINING CODE OF VENEZUELA.

The following is an abridged translation of the Venezuelan mining code, adopted April 18, 1893, transmitted May 6 by Consul Plumacher, of Maracaibo:

CHAPTER I.—OF MINES.

ARTICLE 1. Every accumulation of inorganic, metalliferous, and combustible substances and precious stones used as jewelry, either in the interior or upon the surface of the earth, is a mine. Deposits of pearls, corals, sponges, amber, etc., found in placers or on the sea beach, will not be considered as mines and will be worked under special regulations of the Federal or State governments.

ART. 2. Building and ornamental stones, slate, clay, lime, peat, kaolin, saltpeter, etc., belong to the owner of the soil, and may be mined without any other authority than the consent of the owner.

ART. 3. Prospecting for minerals and working mines will be governed by this code and the general laws.

ART. 4. Alluvial gold deposits, auriferous sands, and all minerals found in river beds may be freely worked when they have not been conceded by the Government. When such deposits shall be worked under a concession, they will be governed by special regulations of the Federal Executive, establishing the limits of the concession and defining the obligations and rights of the concessionaries and the Government, granting also the land necessary for erecting machinery.

ART. 5. The property right in the mines pertains to the States, their administration to the Federal Government, and the right of working to those who have obtained concessions in the manner provided by this code. The rights acquired by previous legislation are acknowledged by this code.

CHAPTER II.—OF MINING PROPERTY.

ART. 6. Mines may not be worked, even by the owners of the land, without a concession from the Federal Government.

ART. 7. Prospecting for minerals must be confined to the limits of the concessions, which shall not be less than 2½ acres nor more than 750 acres in the case of minerals found in veins. But three times this area may be allowed for coal mines. Mining concessions are declared real and perpetual.

ART. 8. Land is defined as soil and subsoil. The former begins at the surface and extends downward 10 feet; the latter begins at a depth of 10 feet and extends downward to an indefinite depth.

ART. 9. A concession constitutes real property, and as such may be acquired, sold, mortgaged, or made liable, according to the provisions of the civil code relating to real estate. The machinery, plant, and all apparatus used in working the mine shall also be considered real property.

ART. 10. The rights of every concessionary terminate with the limits of the concession; but, should the mineral deposit, whether in veins or alluvial, extend to lands not conceded, he will have the preferred right to ask for a concession in the adjacent land. An individual or company working a mine bordering on another concession must cease operations as soon as the dividing line is reached. In case of a willful invasion of a concession, the aggressor must pay the owner of the property infringed on double the value of any minerals taken from such property.

ART. 11. All mineral found within concessions belong to the concessionary, and may be worked without a special permit for each different mineral.

ART. 12. Unconceded areas lying between two or more concessions will be granted to the owner of the neighboring concession who may first petition for it.

ART. 13. Titles to conceded property will be issued by the President of the Republic and entered in the registry office where the concession is situated.

ART. 14. A concession granted in public lands gives property rights in the surface, as well as for mining; and the concessionary, in working the mine, may freely use the wood, water, etc., of the land.

ART. 15. In event of a concessionary needing for the operation of his mine the use of soil belonging to private owners, sufficient land for his purpose will be expropriated, the value of the land being decided by expert arbitrators. When the surface soil shall contain plantations or valuable woods, the concessionary can not demand more land than is absolutely necessary for the erection of buildings, establishment of machinery, opening of roads, and other purposes indispensable for the working of the mine.

ART. 16. In districts of an essentially mining character the proprietors and inspectors of mines are expected to take all necessary precautions to prevent forest fires.

ART. 17. The waste heaps, or cleanings, of abandoned mines shall be considered public property and free to anyone who may wish to use them.

CHAPTER III.—REQUIREMENTS FOR PROSPECTING AND ACQUIRING A MINING CONCESSION.

ART. 18. All persons wishing to discover or acquire mines must proceed in conformity with the provisions of this code, under penalty of having their acts nullified and incurring damages for their trespass.

ART. 19. Prospecting for minerals may be freely carried on in open and uncultivated lands, whether public or private; but parties may not enter upon yards, gardens, building sites, or inclosed lands pertaining to dwellings or other buildings, either in towns or in the country, without the authority of the owners.

ART. 20. In lands which are private property the consent of the owners must be obtained before commencing prospecting works. Should the owner refuse permission, application should be made to the president of the State or governor of the Territory in which the property is situated, who will give a permit to enter upon the land, provided the applicant will bind himself to pay for any damages which he may cause to the property.

ART. 21. Conceded areas, whether being worked or not, can not be entered on for prospecting purposes without the consent of the concessionaries. This prohibition does not apply to the roads or right of way which another mine has the privilege of establishing in order to facilitate its working.

ART. 22. No mining works may be opened at a less distance than 22 yards from any building, railway, walled inclosure, carriage road, canal, bridge, or public or private road without the consent of the owner or public authorities. No mine can be opened less than 1,500 yards from a fortified point.

ART. 23. In towns near mines in operation, and established as a result of such mines, the chief civil authority will grant permission for the works referred to in the previous article.

ART. 24. A person who desires to secure an exclusive right to prospect on a certain tract of land must request permission, which will be granted for an area of not more than 750 acres and for a period not exceeding six months.

ART. 25. On the expiration of the period for which the right to prospect has been granted, the prospector who has discovered any mineral must, in order to obtain a concession for working the mine, submit to the chief civil authority of the district, two samples of such mineral, together with accurate specifications of the place of discovery, its boundaries, area, etc.

ART. 26. On receipt of such samples and application the chief civil authority must enter a record of the request in a book kept for the purpose and cause notices of the application to be posted in public places.

ART. 27. The local authority, after entering the application in the record book, will deliver a copy to the petitioner and send a certified copy to the chief of the district superior to the municipality and the president of the State or governor of the Territory.

ART. 28. As soon as the chief authority of the district has received the application he will post notices in the most public places for a period of forty days and secure the publication of the application in the official newspapers.

ART. 29. The chief of the district and the president of the State will order the application to be recorded in the registry of mines and acknowledge its receipt to the petitioner.

ART. 30. At the end of the period of forty days the petitioner will forward to the president of the State or governor of the Territory a description of the class of mine for which the concession is desired, its area, boundaries, and other details, with a request for a provisional concession.

ART. 31. The president of the State or governor of the Territory will, on receipt of the second application, if it appears that all the requirements of the law have been complied with, order the chief of the district in which the mine is situated to give to the petitioner provisional possession of the mining concession.

ART. 32. The chief of the district, on receipt of such order from the president of the State or governor of the Territory, will designate a day on which the civil authority will take possession of the property applied for, and at the same time will order that possession of the concession be given to the petitioner or his representative.

ART. 33. The chief of the municipality must inform the civil chief, the mine guard, the petitioner, and two experts of the time at which possession of the property will be given.

ART. 34. If any of the civil authorities should be unable to be present at the time specified, they must give timely notice, in order that substitutes may be appointed.

ART. 35. In case of unavoidable absence of any of the civil authorities, the chief is empowered to appoint substitutes.

ART. 36. On the day appointed the chief of the municipality and experts, the mine guard, the petitioner, and the owners of adjacent property (if any) will proceed to the place where the mine is located. The chief and experts will define the boundaries of the concession and verify the location of the workings for which the concession is required. This being done, a report of the proceedings will be drawn up and signed by the civil authorities.

ART. 37. The chief of the municipality will, on the conclusion of the proceedings, file with the chief of the district and president of the State a copy of the act of possession, which will be entered in the registry of mines.

ART. 38. The president of the State or governor of the Territory will, on receipt of the record sent by the chief municipal authority, forward to the petitioner a provisional title for a period of two years.

ART. 39. The president of the State may extend the provisional title at his discretion.

ART. 40. A copy of such extension must be forwarded to the minister of public works.

ART. 41. The costs of obtaining mining titles must be paid by the concessionaries.

ART. 42. The stamped paper used for all official documents in connection with mining concessions will be of the lowest class of such paper.

CHAPTER IV.—OPPOSITION TO GRANTING CONCESSIONS.

ART. 43. Contestants of any application for concessions may present their objections at any time previous to the day appointed for the act of giving possession. All objections must be copied in a book of record.

ART. 44. An objection having been entered, the contesting party will be allowed nine days in which to furnish evidence of his claim to the mine guard. In case of an appeal from the decision of the guard, the evidence may be sent to the minister of public works.

ART. 45. The owners of mines adjoining the property for which a concession is asked may contest the granting of the application when their mines are involved and the question of the proper boundaries of the respective concessions.

CHAPTER V.—PERMANENT TITLES.

ART. 46. The minister of public works, on proof of compliance with the laws relating to provisional titles, will issue a permanent title, signed by the President of the Republic.

ART. 47. One copy of the permanent title will be filed in the archives of the Government and another sent to the inspector of mines.

ART. 48. The expense of issuing the permanent title shall be paid by the concessionaries.

ART. 49. The permanent title will be filed in the register's office of the district in which the mine is situated.

CHAPTER VI.—OBLIGATIONS OF CONCESSIONARIES.

ART. 50. Any person competent to own real estate in Venezuela, with the exceptions stated in article 51, may acquire mines according to this code. A company, native or foreign, whether its domicile be in Venezuela or a foreign country, may obtain concessions.

ART. 51. The following persons are prohibited from acquiring mines or from having any interest in them:

(1) Mining engineers and mine guards, within the limits of their districts.

(2) Presidents of States, governors of Territories, and treasury agents, within their districts.

(3) Judges to whom is intrusted the administration of justice in matters connected with mines.

These prohibitions do not apply to mines acquired before the appointment of these officials to their office, nor to concessions they may acquire by inheritance.

ART. 52. Companies formed for working mines are subject to the civil code.

ART. 53. Mining companies are divided into four classes—general liability, limited, anonymous, and simple.

ART. 54. The general, limited, or anonymous companies will be organized under the commercial code, without, however, losing their civil character. (In Venezuelan jurisprudence there is a "civil code" and a "commercial code.") Anonymous or limited-liability companies having their domicile outside of Venezuela, must appoint a resident agent or attorney with all powers to represent them. This power of attorney must be registered in the tribunal of commerce and published in the official journal of the district in which the concession is situated.

ART. 55. The properties, rights, and shares which foreign companies own in Venezuela will be directly liable for all transactions by their agents.

ART. 56. Parties loaning money for working a mine or purchasing machinery can be secured by a mortgage on the concession. The mortgage must be registered in the district in which the property is situated.

ART. 57. The concessionary must, within two years after the extension of the provisional title, determine the exact limits of the concession.

ART. 58. The limits, having been determined, must be inspected by the chief civil authority of the district.

ART. 59. The owner of a concession must keep the boundaries of his property clearly defined by pillars of masonry or posts of wood.

ART. 60. Concessionaries failing to comply with the above provisions of the code will be liable to heavy fines.

ART. 61. Within five years from the time that a permanent title is granted for a concession the mine must be either worked or declared abandoned. Should this not be done, the concessionary may be fined and the title declared lapsed and void. A mine to be considered working must have at least six laborers daily employed.

ART. 62. When commencing work in a mine the concessionary will notify the chief local authority.

ART. 63. When a concession is allowed to lapse, the minister of public works will declare it void.

ART. 64. Concessions which have thus lapsed may be conceded as new mines on compliance with all provisions of this code.

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CHAPTER VIII.—"BARRANCOS."

ART. 70. A "barranco" is defined as a term applied to mining gold in clays or alluvial deposits.

ART. 71. "Barrancos," or pits for working gold mines in clay or alluvial deposits, can not be opened in the neighborhood of a discovered vein or within a space of 100 yards of such vein.

ART. 72. The working by "barranco" is supposed to refer to the washing of clay or earth in pans or by machinery, and does not give the concessionary of such workings the right to take minerals from definite veins or lodes.

ART. 73. The system of "barrancos" may be worked by any person capable of making contracts, with no other restrictions than those of this code.

ART. 74. This system may not be undertaken within limits of towns or public roads within a radius of 100 yards of buildings, aqueducts, plantations, and gardens.

ART. 75. On the discovery of an alluvial gold deposit the mine guard of the district shall immediately establish the limits of the working, each "barranco" to have a superficial area of 100 square yards. One person or company may work several "barrancos."

ART. 76. Persons prospecting on private lands must fill up any excavations before abandoning the workings.

CHAPTER IX.—WATER FOR MINING PURPOSES.

ART. 77. The owner of a mining concession acquires the right to take water necessary for the working of his mine if the latter is situated on public lands.

ART. 78. The discoverer of the first mine in any particular locality has the preferred right to the water necessary for an ordinary establishment, and this right shall continue even though the mine may temporarily stop working.

ART. 79. Subsequent discoverers acquire right to water in order of discovery.

ART. 80. Every discoverer of a mine has the right to the use of water, provided he does not infringe on the rights of a previous discoverer.

ART. 81. While using water according to the foregoing articles, miners must not deprive the owners of adjoining lands of the water necessary for their animals, for irrigation, for operating machinery, and other purposes. Supplies of water for aqueducts or other public purposes must not be interfered with.

ART. 82. Disputes about water for mining purposes must be decided by experts appointed by the interested parties.

ART. 83. In case of a dispute as to the use of surplus water, that which remains after operating the mine of the earliest discoverer shall be considered as surplus.

ART. 84. The right to use surplus water can not be contested by the first concessionaries.

ART. 85. The disputes which arise respecting the water supply between miners and the owners of lands will be settled by the civil authority.

ART. 86. In case of a mine which can not be worked without the water used in another mine, the new discoverer will have the right to the surplus water of the first miner under such conditions as shall guaranty the original discoverer against loss by reason of a diminished water supply.

ART. 87. Water, after use in one mine, may be freely used in other mines on the line of such flow of water.

ART. 88. When the owner of a mine situated above other mines using the same flow of water suspends operations, the owners of the lower mines may use the water which was formerly taken by the first mine.

ART. 89. The right to the use of water is transferred with the title to the mine, and returns to the community when the mine is abandoned. But the owner of a mine may by contract reserve the right to use the water in connection with it.

ART. 90. An abandoned water supply which has reverted to the community is subject to the disposition of this chapter.

ART. 91. The reworking of an abandoned mine can not deprive the user of water formerly used in such mine of his first claim to the employment of the water.

ART. 92. Concessions situated above mines in operation may use the water, provided that it is allowed to return to its former channel and is not rendered unfit for use by the lower mines.

ART. 93. The owners of upper mines whose property has been acquired subsequent to the titles of the lower mines must dispose of their waste water in such manner as to cause no injury to the lower mines.

ART. 94. In case of any damage resulting to mines from the waste water of other mines, the owner of the latter must indemnify the owner of the first mine, the actual damage to be estimated by experts.

ART. 95. This code will govern all questions of water supplies and indemnities for damages resulting from the use of water in mining.

CHAPTER X.—TAXES AND EXEMPTIONS.

ART. 96. Each mining concession must pay a yearly tax of about 4 cents on each acre. If the mine is being worked, the taxes shall be as follows:

(1) Mines of gold, silver, platinum, and precious stones, one-half of 1 per cent of the gross product of the mine.

(2) Mines of copper and other metals, coal, asphalt, talc, petroleum, and all others not specified, the above tax of 4 cents per acre.

ART. 97. These taxes shall be paid monthly in cash at the custom-house nearest the mining district. The duty of enforcing these taxes devolves on the mine guards of the district.

ART. 98. The following articles are exempt from all import duties: Machinery, tools, cables, rubber belting, oils, and everything used in the working of mines; all instruments used for assays; and chemicals and other substances used in the smelting and refining of minerals.

ART. 99. The mining of gold from clay or alluvial deposits is free from all taxation, unless by special contracts with the Federal Government.

ART. 100. The mining property will be held liable for all taxes due on the concession on which it is located.

CHAPTER XI.—CONDITIONS FOR WORKING MINES.

ART. 101. Mines must be worked according to the following regulations:

ART. 102. Each State of the Venezuelan federation shall be divided into as many mining districts as there are territorial divisions in the State.

ART. 103. The Federal District and the Territory of Colon constitute one district, and each one of the other Federal Territories a separate district. The governors of these districts grant all provisional titles.

ART. 104. The owners or managers of mines must keep their workings well ventilated.

ART. 105. The walls and roofs of all workings must be supported by timbers or other materials, and banks and outside works protected by walls.

ART. 106. The owner of a mine will be responsible for damages caused to another mine by his failure to provide proper methods of drainage.

ART. 107. All ladders used in shafts must be sufficiently strong to insure the safety of the workmen.

ART. 108. Cables used in mines must be of the best quality.

ART. 109. Mine-owners will be liable in damages for any accident which results in the death or injury of any workman.

ART. 110. Foreign and native mining companies must keep their books in the Spanish language.

[Chapter XII defines the duties and powers of the various Federal and State mining officials. Chapter XIII contains the police regulations affecting mining districts.]

CHAPTER XIV.—GENERAL REGULATIONS.

ART. 125. Every transfer of a mining concession must be reported to the minister of public works and mining inspector.

ART. 126. Concessions for hydraulic workings for gold will in no case exceed 3 square miles.

ART. 127. In the concessions for all alluvial gold deposits the use of water for working is always included.

ART. 128. The register of the district in which concessions are located will, as soon as permanent titles are registered, forward certified copies to the minister of public works.

ART. 129. The director of Federal wealth will cause to be kept a registry of all mining concessions, with their location, area, and date of concession.

ART. 130. The various Federal, State, and district authorities must faithfully comply with all regulations of this code.

ART. 131. All books of registry kept by the chiefs of municipalities will be inspected by the chief of the district.

ART. 132. The first petitioner for any concession who has complied with all the provisions of the code has an indisputable right to the ownership of the concession.

ART. 133. Plans of mining areas must be bounded by straight lines and right angles.

ART. 134. Copies of the rules of each mining company, containing the hours of labor, wages of employés, day of payment, and prices of goods supplied by the company (if any), shall be fixed in a conspicuous place in the company's office and a copy sent to the mine guard and the district inspector.

CHAPTER XV.—TEMPORARY REGULATIONS.

ART. 135. All mining titles extended in conformity with previous laws are ratified by this code, with the exception of concessions which have been declared lapsed.

ART. 136. Owners of old concessions which have not yet been worked may, within one year from date, present to the minister of public works their original titles, for which permanent titles according to the present law will be exchanged. Concessions which have lapsed and were granted to new petitioners will remain the property of the new concessionaries. Petitioners who have been given a permanent title will have their concessions extended in conformity with this code.

ART. 137. When the title of a mining concession shall be presented to the minister of public works, together with the certificate of registry, the minister will certify to its ratification.

ART. 138. The revised title will be registered according to law in the office of the minister of public works and in the registry of the district in which the concession is situated.

ART. 139. The law of June 26, 1891, and the regulations of September 12 of the same year are hereby annulled.

ART. 140. The minister of public works is charged with the execution of this decree.

JOAQUIN CRESPO.

POSSIBLE INCREASE OF TRADE WITH CHINA.

It may be safely asserted that the Chinese merchant will buy in that market which holds out to him the best profit. There is no question of prejudice for one country to the disadvantage of another.

Tacoma has recently been connected with Shanghai by a direct line of steamers. The advantages that should result to Tacoma therefrom are obvious. There are two classes of merchandise that China might import from America—goods such as are used in the United States which are adaptable here and goods made especially for the Chinese market. As far as I have been able to learn, very little, if any, of the goods as yet imported into China from the United States belong to the latter class.

Manufacturers of cotton fabrics are content to offer their goods when the demand of the home market is slack and they require an outlet for surplus stock; but as yet the United States have not attempted to manufacture cotton goods to meet the special features of the market here.

I know of no better way of giving information as to the possibilities of an increased trade with China than by transmitting the following tables of imports and exports for the years 1891 and 1892 as compiled by the imperial maritime customs:

Imports (net) in 1891 and 1892.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
		Haikwan taels.		*Haikwan taels.*
Opium, all kinds.....piculs...	77,226.86	28,333,156	70,928.95	27,418,152
Cotton goods.				
Shirtings:				
Gray, plain.....pieces...	5,985,598	10,206,236	6,460,792	10,992,034
White—				
Plain.....do.....	2,732,779	5,413,608	2,288,629	4,717,850
Figured, brocaded, and spotted.....pieces...	59,301	73,237	84,887	111,070
Dyed—				
Plain.....do.....	165,617	406,767	165,667	411,545
Figured, brocaded, and spotted.....pieces...	92,115	181,872	133,367	431,842
T cloths.....do.....	2,046,043	2,504,939	2,090,369	2,556,902
Drills:				
English.....do.....	235,766	466,112	102,057	208,397
Dutch.....do.....	28,400	48,280	34,680	52,020
American.....do.....	861,591	1,897,768	644,532	1,452,848

Imports (net) in 1891 and 1892—Continued.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
Cotton goods—Continued.				
Jeans:		*Haikwan taels.*		*Haikwan taels.*
English.....pieces...	145,811	218,951	123,960	192,313
Dutch.....do.....	47,511	77,918	16,220	25,952
American.....do.....	17,317	29,700	20,101	35,274
Sheetings:				
English.....do.....	890,017	1,789,563	686,528	1,399,130
American.....do.....	2,008,455	4,519,159	1,326,406	3,184,174
Chintzes, furnitures, and plain cotton prints.....pieces...	540,615	655,541	645,579	863,830
Twills, printed.....do.....	80,650	155,541	191,378	385,162
Turkey-red cottons.....do.....	776,632	1,133,612	367,418	481,043
Cotton lastings, plain and figured.....pieces...	533,244	1,256,678	600,747	1,444,676
Cotton damasks.....do.....	1,372	4,954	2,171	7,692
Velvets.....do.....	42,901	201,451	53,386	309,528
Velveteens.....do.....	13,016	55,479	13,752	59,568
Jaconets, cambrics, lawns, muslins, and dimities.....pieces...	296,491	180,117	306,164	184,951
Handkerchiefs.....dozens...	430,991	173,844	606,874	243,347
Towels.....do.....	638,306	191,190	582,799	176,644
Cotton goods, unclassed.....	.....	464,144	.....	626,986
Cotton yarn:				
English.....piculs...	73,058.52	1,507,239	49,019.39	1,002,945
Indian.....do.....	1,138,083.73	19,396,855	1,254,489.64	21,056,464
Cotton thread.....do.....	1,778.91	79,445	2,063.12	93,245
Total cotton goods.....	.....	53,290,200	.....	52,707,432
Woolen goods.				
Camlets:				
English.....pieces...	121,772	1,020,621	99,048	869,727
Dutch.....do.....	100	1,756	265	4,590
Lastings.....do.....	118,328	785,749	117,343	808,994
Crape.....do.....	1,381	5,485	149	775
Long ells.....do.....	133,334	586,936	106,370	495,071
Spanish stripes.....do.....	56,127	533,413	55,595	542,007
Cloth (broad, medium, habit, and Russian).....pieces...	32,219	665,452	44,817	1,017,900
Lusters and Orleans:				
Plain.....do.....	6,892	33,219	8,233	42,657
Figured.....do.....	14,936	42,444	14,552	41,382
Blankets.....pairs...	19,282	46,833	26,159	72,714
Woolen yarn and cord.....piculs...	.....	.....	1,280.86	100,664
Woolen goods, unclassed.....	.....	973,348	.....	797.749
Total woolen goods.....	.....	4,695,256	.....	4,794,230
Miscellaneous piece goods.				
Canvas.....bolts...	3,804	20,249	7,135	56,377
Unclassed.....	.....	80,955	.....	149,490
Total miscellaneous piece goods..	.....	101,204	.....	205,867
Metals.				
Iron:				
Nail rod.....piculs...	453,629.62	858,814	300,384.7	564,499
Bar.....do.....	198,648.34	412,088	133,821.42	293,647
Hoop.....do.....	18,472.42	45,622	12,221.4	24,720
Sheets and plates.....do.....	68,785.76	210,531	44,314.67	131,502
Wire.....do.....	63,317.57	251,445	67,258.35	261,022
Pig and kentledge.....do.....	64,184.85	64,894	97,088.69	111,981

Imports (net) in 1891 and 1892—Continued.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
Metals—Continued.				
Iron—Continued.		*Haikwan taels.*		*Haikwan taels.*
Old.....piculs...	859,017.86	1,072,111	704,253.75	831,685
Ironware, unclassed.....	.....	267,108	.....	340,154
Tin:				
Slabs.....piculs...	67,451.11	1,551,920	66,966.46	1,758,054
Plates.....do.....	20,717.98	75,217	17,970.02	81,395
Lead:				
Pigs.....do.....	154,575.35	599,895	221,386.29	830,187
Tea and sheet.....do.....	5,275.36	21,112	2,203.41	10,954
Copper:				
Bar, rod, sheets, plates, nails..do.....	7,709.08	116,018	9,170.13	142,751
Wire.....do.....	1,259.64	24,826	1,415.84	28,040
Unmanufactured, slabs, ore..do.....	38,253.95	500,393	31,206.12	437,163
Copper ware, unclassed.....do.....	578.78	12,557	511.76	13,134
Yellow metal (bar, rod, sheets, and nails).....piculs...	30,833.84	364,952	26,336.32	306,296
Brass wire.....do.....	3,075.05	55,885	3,163.62	57,558
Steel.....do.....	57,176.12	209,077	53,443.18	174,677
Spelter.....do.....	13,540.34	102,901	44,557.42	275,281
Quicksilver.....do.....	2,145.18	139,164	2,591.82	161,715
Metals, unclassed.....	.....	297,918	.....	294,451
Total metals.....	.....	7,254,448	.....	7,130,866
Sundries.				
Betel nuts.....piculs...	59,345.51	296,868	59,513.62	282,191
Bêche de mer.....do.....	36,065.26	854,954	40,352.61	1,030,905
Birds' nests.....do.....	734.3	411,508	841.93	449,356
Clocks and watches.....pieces...	142,951	247,829	104,803	235,330
Cloves and spices.....piculs...	22,225.36	535,105	20,793.46	467,577
Coal.....tons...	369,994	1,708,293	398,230	2,007,685
Colors.....piculs...	15,225.37	93,567	14,113.23	69,535
Cotton, raw.....do.....	110,618.47	1,195,262	106,635.03	1,157,001
Dyes, aniline.....	.....	976,026	.....	978,921
Fish and fishery products (not including Bêche de mer, isinglass, and seaweed).....piculs...	284,676.35	2,640,444	292,905.98	2,686,228
Flint stones.....do.....	65,554.02	31,233	39,665.93	21,061
Flour.....	.....	704,869	.....	670,905
Ginseng.....piculs...	2,923.94	710,141	3,348.13	847,465
Glass, window.....boxes...	98,281	232,192	64,734	159,242
Indigo.....piculs...	3,514.97	17,955	9,755.51	50,840
Isinglass.....do.....	8,893.96	234,388	9,134.12	204,614
Jade stone.....do.....	3,757.64	95,058	3,969.92	113,067
Machinery.....	.....	900,500	.....	593,449
Mangrove bark.....piculs...	175,464.37	149,477	129,799.54	109,025
Matches.....gross...	4,894,611	1,506,591	5,227,598	1,423,896
Mushrooms.....piculs...	14,580.06	402,865	14,910.05	433,014
Needles.....M...	3,214,258	404,945	3,043,539	364,345
Oil, kerosene:				
American.....gallons...	39,348,477	4,308,839	31,884,013	4,081,706
Russian.....do.....	10,000,902	958,212	8,649,318	967,847
Paints.....piculs...	12,140.91	159,023	22,903.59	337,462
Pepper, black and white.....do.....	57,443.76	503,337	66,542.1	596,139
Perfumery.....	.....	42,063	.....	51,237
Rattans.....piculs...	101,248.45	392,532	100,813.71	429,299
Rice.....do.....	4,684,675.39	6,597,259	3,948,201.56	5,826,415
Sandalwood.....do.....	97,458.26	489,670	120,841.3	760,970

Imports (net) in 1891 and 1892—Continued.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
Sundries—Continued.		*Haikwan taels.*		*Haikwan taels.*
Sapan wood.....piculs...	102,084.35	209,840	118,834.2	239,486
Seaweed and agar-agar.....do.....	429,895.71	765,707	522,548.85	1,035,313
Soap.....	.....	184,634	.....	291,806
Sugar.....piculs...	290,035.67	1,774,111	531,614.78	2,447,807
Tea, Japan.....do.....	11,458.98	37,742	14,032.39	51,284
Timber of all kinds.....	.....	895,840	.....	1,082,227
Umbrellas.....pieces...	433,098	132,712	667,633	188,450
Wines, beer, and spirits.....	.....	327,073	.....	364,977
Wood of all kinds (sandalwood, sapan wood, and timber excepted).....	.....	219,454	.....	261,341
Sundries, unenumerated.....	.....	7,981,491	.....	9,475,296
Total sundries.....	.....	40,329,599	.....	42,844,651
Grand total.....	.....	134,003,563	.....	135,101,198

NOTE.—The picul is equal to 133⅓ pounds avoirdupois, and the haikwan tael at the present rate of exchange is equal to about $1 (United States).

Exports in 1891 and 1892.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
		Haikwan taels.		*Haikwan taels.*
Aniseed, star.....piculs...	5,850.7	70,331	12,957.88	155,636
Bamboo and bamboo ware.....	.....	310,941	.....	349,765
Beans.....piculs...	662,651.22	791,318	1,142,571.64	1,187,767
Camphor.....do.....	18,514.62	279,250	17,785.62	307,992
Cassia lignea.....do.....	69,885.74	405,265	90,901.22	589,329
China ware, earthenware, and pottery.....piculs...	266,511.49	808,239	269,573.46	1,084,008
Clothing (Chinese), boots, and shoes....	.....	1,406,435	.....	1,592,969
Cotton, raw.....piculs...	355,584.54	3,841,129	508,843.17	5,089,361
Curios.....	.....	36,164	.....	30,838
Fans of all kinds.....pieces...	32,993,263	466,048	26,089,749	350,665
Feathers (duck, fowl, etc.).....piculs...	40,392.47	231,671	43,882.39	275,992
Firecrackers and fireworks.....do.....	110,121.81	1,012,530	130,956.6	1,181,128
Fish and fishery products.....	.....	470,402	.....	496,282
Fruits of all kinds.....	.....	517,653	.....	665,796
Galangal.....piculs...	8,078.28	8,049	16,378.89	18,845
Glassware, bangles, etc.....do.....	21,811.14	365,492	21,698.63	348,758
Gold and silver ware.....do.....	30.38	82,065	29.57	77,613
Grass cloth.....do.....	2,319.84	200,093	2,831.02	238,940
Hair of all kinds.....	.....	340,998	.....	357,937
Hats, rush.....pieces...	1,706,962	17,026	1,362,000	11,023
Hemp.....piculs...	42,506.14	230,510	61,598.18	356,437
Hides, cow and buffalo.....do.....	67,521.26	653,231	62,911.34	495,065
Horns, cow and buffalo.....do.....	11,900.38	87,498	14,478.05	110,377
Leather.....do.....	2,083.80	40,393	4,819.16	72,405
Mats (not including matting)....pieces...	16,439,546	454,568	17,283,012	485,574
Matting.....rolls...	238,050	859,065	223,894	806,479
Medicines.....	.....	374,487	.....	420,609
Musk .....piculs...	25.87	329,608	22.4	224,445
Nankeens.....do.....	8,112.35	302,392	10,343.42	383,280

Exports in 1891 and 1892—Continued.

Articles.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
		Haikwan taels.		*Haikwan taels.*
Nutgalls.....piculs...	38,933.25	363,125	38,476.98	460,880
Oil (bean, groundnut, tea, wood, etc.).....piculs...	44,589.28	248,439	44,062.42	256,401
Oils, essential (aniseed, cassia leaf, etc.).....piculs...	2,174.55	249,212	3,167.84	383,362
Paper.....do.....	205,236.75	1,570,709	223,808.96	1,572,524
Preserves.....do.....	24,127.76	221,102	18,559.74	182,249
Provisions and vegetables.....	.....	597,640	.....	742,515
Rhubarb.....piculs...	3,770.58	135,659	6,598.7	208,941
Safflower.....do.....	281.18	16,152	255.73	11,455
Samshu.....do.....	90,015.02	321,452	87,328.01	311,320
Silk:				
Raw—				
White.....do.....	74,489.04	22,109,749	75,722.33	23,810,567
Yellow.....do.....	10,459.55	2,405,742	9,032.23	2,032,252
Wild.....do.....	17,043.43	1,513,670	16,433.47	1,475,225
Reeled from dupions.....do.....	12.9	645	14.48	869
Cocoons.....do.....	10,119.64	590,686	6,539.54	414,455
Refuse.....do.....	60,703.99	3,263,883	55,890.98	2,603,745
Piece goods.....do.....	11,885.67	6,262,654	13,111.49	6,899,906
Shantung pongees.....do.....	1,280.02	202,035	2,751.18	471,944
Products, unclassed.....do.....	1,583.53	552,962	1,750.49	579,167
Skins (furs), skin clothing, and rugs.....	.....	881,225	.....	1,315,532
Straw braid.....piculs...	79,211.69	1,605,234	87,273.11	2,056,856
Sugar:				
Brown.....do.....	727,544.87	1,997,563	665,820.81	1,609,192
White.....do.....	123,048.75	502,682	110,815.4	416,194
Candy.....do.....	14,812.61	94,215	8,981.48	48,016
Tea:				
Black.....do.....	1,203,641.54	24,979,259	1,101,228.34	19,990,562
Green.....do.....	206,760.2	3,545,911	188,439.71	3,486,604
Dust.....do.....	3,530.74	18,978	855.18	3,176
Brick.....do.....	328,860.52	2,328,755	323,112.28	2,313,179
Tablet.....do.....	7,241.01	155,681	9,045.31	189,979
Tobacco, leaf and prepared.....do.....	93,838.5	1,052,358	92,127	1,074,752
Vermicelli and macaroni.....do.....	57,486.29	210,727	81,347.82	305,034
Wool.....do.....	135,363.47	1,111,704	173,406.58	1,545,432
Sundries, unenumerated.....	.....	6,845,190	.....	8,041,925
Total.....	.....	100,947,849	.....	102,583,525

J. A. LEONARD,
Consul-General.

SHANGHAI, *April 14, 1893.*

DESTRUCTION OF CITY REFUSE.

I have received at different times applications from the proper authorities of cities in the United States for particulars concerning the disposition of sewage in England, and I transmit herewith a report on that subject recently printed by William B. G. Bennett, the borough engineer and surveyor of Southampton. I have secured specifications from other cities, but, deem-

ing the Southampton "destructor" the best in England, I waited for this report.

I desire to remark that the system of sewerage here is similar to that in American cities. The authorities have not yet adopted any systems of sewage-gas consumption, but it is their purpose to do so.

Since the introduction of this system of refuse destruction the vegetation usually seen on the shore immediately approximate to the city has disappeared or changed, and certain kinds of fish which feed upon sewage have become scarce in the adjoining waters.

JASPER P. BRADLEY,
Consul.

SOUTHAMPTON, *May 11, 1893.*

SOUTHAMPTON SEWAGE-PRECIPITATION WORKS AND REFUSE DESTRUCTOR.

Early in 1885 the corporation of Southampton considered it expedient to introduce a more efficient system for the collection and disposal of house refuse; and about the same time they found it desirable also to clarify by precipitation the sewage of a particular district of the town, which was being discharged in its crude state direct into the Southampton water at the town quay. Having been instructed to devise a scheme for accomplishing these objects, the author proposed the adoption of a refuse destructor for destroying the ash-bin contents and garbage of the town, and also that the sewage sludge should be transmitted to the destructor from the two existing reservoirs in which it was deposited in the process of clarification. These reservoirs are each 100 feet long and 60 feet wide, and at the lowest end 10 feet deep. Formerly the sewage of a district of the town, amounting to 500,000 gallons in twenty-four hours from a population of about 13,000, for the most part flowed by gravitation into these reservoirs, whence it was discharged into the tideway at low water; while a small portion, coming from a low-level sewer, passed direct into the tideway through iron pipes laid under the reservoirs. The reservoirs act alternately, one being left still for precipitation of the sewage while the other is being filled.

PNEUMATIC EJECTORS.

In order to render independent of the tide the discharge of the clarified effluent from the reservoirs, and to raise the low-level sewage into the reservoirs for treatment with the rest, two pneumatic ejectors were erected, both of which are worked by power obtained from the destructor. The smaller, of 360 gallons' capacity, is placed in the east reservoir, below the invert of the low-level sewer, and serves for transmitting the sludge from the reservoirs to the destructor, as well as for raising the low-level sewage; and the larger, of 700 gallons' capacity, is placed in the east reservoir for discharging the clarified effluent into the Southampton water. There is also a third ejector, of 360 gallons' capacity, which deals with the sewage of another district of the town near the destructor works, and is likewise worked by power obtained from the destructor; with an air pressure of 12 pounds per square inch it raises the sewage about 18 feet from a low-level sewer to a higher one. This ejector was formerly worked by an independent steam engine, costing for coal about £120 per annum, which is now saved since the adoption of the destructor.

The sewage gravitates from the sewers, through the inlet pipe, into the ejector and gradually rises therein until it reaches the underside of the bell. The air at atmospheric pressure inside this bell is thus inclosed; and the sewage continuing to rise outside above the rim of the bell compresses the inclosed air sufficiently to lift the bell, the spindle of which then opens the compressed-air admission valve. The compressed air thus automatically admitted into the

ejector presses on the surface of the sewage, driving the whole of the contents before it through the bell-mouthed opening at the bottom and through the outlet pipe into the iron rising main or into the high-level gravitating sewer, as the case may be. The sewage can escape from the ejector by the outlet pipe only, because the instant the air pressure is admitted upon the surface of the sewage the nonreturn flap valve on the inlet pipe falls on its seat and prevents the sewage from escaping in that direction. As the sewage flows out of the ejector, its level therein falls to that of the cup; and still continuing to lower, it leaves the cup full until the weight of the stuff in the portion of the cup thus exposed and unsupported by the surrounding sewage is sufficient to pull down the bell and spindle, thereby shutting off the admission of compressed air to the ejector. The compressed air remaining within the ejector then exhausts through an air-escape valve in the top, which is opened by the fall of the cup and spindle; and the sewage outlet nonreturn flap valve falls on its seat, retaining the sewage in the rising main. The sewage then flows once more into the ejector through the inlet, driving the free air before it through the air-escape valve as the sewage rises; and so the action goes on as long as there is sewage to flow. The position of the bell and cup floats is so adjusted that the compressed air is not admitted until the ejector is full of sewage, and is not allowed to exhaust until the ejector is emptied down to the discharge level.

RESERVOIRS.

In each reservoir there is a floating sewage inlet, consisting of a pipe hinged to the larger or effluent ejector and shackled to a buoy; the latter causes the free end of the pipe to rise and fall with the level of the liquid, keeping its mouth, which is covered with perforated plate, a few inches below the surface of the liquid, in order to prevent the entrance of any floating solid matter. Directly the clarification by precipitation has been effected to a certain depth, a valve is opened, admitting the liquid into the larger ejector, whence it is at once discharged into the tideway. A supplementary sewage outlet is also provided in each reservoir for discharging the liquid by gravitation when the tide is low enough. When the whole of the liquid has been thus drawn off, the buoy, resting now upon the floor of the reservoir, keeps the mouth of the inlet pipe high enough to prevent the entrance of any sludge into the larger or effluent ejector; and by opening a valve the sludge is then admitted into the smaller or sludge ejector situated at the lower level and is transmitted by air pressure through a line of 4-inch cast-iron pipes, about a mile in length, to the destructor erected on the Chapel Wharf. An air pressure of 40 pounds per square inch is required for working the sludge ejector and of 10 pounds for the effluent ejector.

PRECIPITATION.

Ferrozone is used for precipitating the sludge; it is mixed with just enough clean water to make the whole into a stiff paste, which is led through a shoot into a box with perforated sides placed in the sewer. The sewage flowing past washes the ferrozone gradually out of the box, and is thoroughly mixed with it by the time it discharges into the reservoirs at a manhole 150 feet distant from the box. A small stream of water falling upon the ferrozone prevents it from consolidating. The box is filled three times in twenty-four hours, and this method of dosing the sewage has proved quite efficient and satisfactory.

MANURE-MIXING.

On arriving at the destructor the sludge is delivered into a cell, from which it is drawn as required through a valve pipe; and after mixture with road sweepings or sorted house refuse it is turned out as a good manure, which from the commencement has all been readily bought up by agriculturists at 2*s*. per load delivered at the works. On an average, sixty-seven cart loads of ash-bin contents are daily collected and disposed of, the ascertained weight of the load in each cart averaging a little under 17 cwts. The road sweepings are never burnt; but, to keep pace with the demand, the sludge is run into bays made of the road sweepings, and is also filled in with them. The quantity of road sweepings thus utilized amounts in

twenty-four hours to about 8 tons. Arrangements were provided at first for burning the sludge, for which purpose it was discharged into a tank on the floor of the destructor and drawn out through ports in the front, opposite the feed openings of the firing chambers, where its moisture was absorbed by the ash-bin contents, which were backed up against the ports with this object; and the mixture was then raked into the fires. Large quantities of sludge were thus destroyed; but the process has since been discontinued, owing to the ready sale of sludge when prepared for manure.

DESTRUCTOR.

The refuse destructor has six chambers or furnaces, each capable of burning 8 to 11 tons of garbage per day. The products of combustion pass through a 30-horse-power multitubular steel boiler in the main flue into a furnace shaft, which is of circular brickwork, 160 feet in height from the ground line, 6 feet inside diameter at top, and 7 feet at bottom. The shaft is constructed upon a pedestal 14½ feet square and 24 feet high, of brickwork 3 feet thick; and thence upward in four sections, of which the first is 27 inches thick and 30 feet high, the second 22½ inches thick and 30 feet high, the third 18 inches thick and 38 feet high, and the fourth 14 inches thick and 38 feet high. The first 30 feet [of this shaft] is lined with fire brick, and behind the lining is a cavity 4½ inches wide, which is ventilated by apertures to the outside of the shaft. The foundation is loamy clay, upon which is laid a bed of concrete 30 feet square and 10 feet thick. The footings commence at 23 feet 2 inches square, and step off in regular courses upwards to 15 feet square at a height of 6 feet. The concrete was filled in continuously until completion. The pedestal was then run up and allowed to remain for nearly three months during the winter, after which the work was proceeded with until completion, occupying about six months more. The cap is white brick in cement, with a string course about 20 feet below the top. Foot irons are built inside in a winding lead up to the top. The shaft is provided with a copper-tape lightning conductor, with iron rod and crow's-foot 7 feet above the cap; the tape is about 215 feet long, the bottom end being carried into a well. In August, 1888, the shaft was damaged by lightning, but was easily repaired, owing to the provision of the foot irons built inside it. At that time the shaft was plumbed, and was found to be quite vertical. The fires were only damped down during the repairs, which occupied about eight days. With the exception of this interval they have been constantly burning for nearly six years. The repairs have been almost nil. There is also a by-pass from the destructor to the shaft for enabling the burning process to be continued when the boiler in the main flue is not required or during cleaning and repairs. No obnoxious fumes from the combustion have been perceived.

STEAM POWER.

The steam generated in the boiler is employed for driving a pair of engines of 31½ indicated horse power, which compress air into two large receivers at Chapel Wharf, whence it passes through a 5-inch main to the town quay, where it is automatically supplied to the ejectors when required for working them. The air also serves for driving the precipitated sludge through the 4-inch main from the reservoirs to the destructor, for which purpose the air is led by a pipe from the receiver at Chapel Wharf to the head of the main at the town quay. A 6-horse-power engine, used in connection with the machinery for the preparation of fodder for forty horses at the corporation stables, is also driven by steam from the same boiler that supplies the air-compressing engines.

UTILIZATION OF SLUDGE AND REFUSE.

All obnoxious matters are collected throughout the borough in covered iron tumbler-carts of 2 cubic yards' capacity, which go up the inclined-roadway approach to the destructor and discharge their contents into the firing chambers. The road sweepings are frequently discharged into a hopper over an incorporator driven by a small engine and are mixed with the sludge as required; this is generally done in wet weather. The residue from the con-

tinuous day and night combustion consists of about 20 per cent of good, hard clinkers and sharp, fine ashes. The clinkers are used for the foundation of roadways and the manufacture of paving slabs; the latter have already been used in paving several footpaths of the town and the new public baths at a cost of 2*s.* 6*d.* per square yard. The fine ashes are also employed for making mortar, with which the stables and swimming baths have been erected, and for many other purposes. The mortar is also sold to builders at 7*s.* 6*d.* per cubic yard.

ELECTRIC LIGHTING.

The waste heat from the destructor is utilized for producing electricity. The air-compressing engines drive a dynamo of 150 volts. At the present time the works are lighted with two arc lamps of 3,000-candle power each and twelve incandescent lamps of 16-candle power each; and four streets in the vicinity of the works have been lighted experimentally for the information of the corporation, which, from the successful results obtained, resolved to extend the installation to the municipal offices, a town clock, the Hartley Institution, and the town hall at the Bar Gate. For this purpose it was proposed to place accumulators in the basement of the municipal building and charge them through a cable from the works. Circumstances having led to the abandonment of the street lighting, the public became financially the losers, and a private company is now supplying consumers.

OTHER USES.

The destructor is also employed in lending a helping hand to a neighboring authority by supplying to the local board of Shirley and Freemantle, about 2½ miles from the works, sufficient compressed air to work ejectors which they have erected in connection with the disposal of their precipitated sewage sludge from a population of 15,000. The compressed air is conveyed through a 4-inch main from the destructor works to their precipitation reservoirs, thus saving them the cost of a pumping station and bringing to the corporation a return of £200 a year, which is received for the compressed air. Thus the destructor works are now dealing with the sludge of nearly 30,000 inhabitants.

COST.

The initial cost of the complete destructor—including engine house, inclined roadway, chimney shaft, boiler, and ironwork—was £3,723 ($18,116.11), and the sewage disposal works on the town quay cost about £3,000 ($14,598). This is exclusive of the Shirley and Freemantle works, which consist of three reservoirs very similar in construction to those at the town quay.

The annual expense for burning refuse is as follows:

Description.	Amount.			
	£	s.	d.	
Two stokers, one by day and one by night, at 25*s*.	130	0	0	$632.58
Two feeders, one by day and one by night, at 23*s*. 4*d*.	121	6	8	590.39
Total per annum	251	6	8	1,222.97

VALUE OF REFUSE AS FUEL.

The quantity of refuse burnt per day of twenty-four hours is a little over 50 tons, so that the cost of burning is about 3½*d.* per ton. The minimum quantity burnt per day of twenty-four hours is about 25 tons, which has been sufficient to maintain steam for the engines of 31½ indicated horse power. This is equivalent to 16 cwts. of refuse per indicated horse power for twenty-four hours, or 75 pounds of refuse per indicated horse power per hour.

The annual expenditure for the sewage clarification and disposal is as follows:

Description.	Amount.	
Precipitating material for 365 days, averaging about 5s. per day	£90	$437 94
Engine-driver and laborers at reservoirs	128	622.84
Two men at wharf mixing manure	104	506.06
Total per annum	322	1,566.84

REVENUE.

The amount realized from the sale of manure and for the supply of compressed air during last year (1891) was £600 ($2,919.60). The products from the destructor—including concrete slabs, clinkers used for concrete foundations, and fine ashes for mortar and for foundations of footwalks—represent about £300 ($1,459.80). To these may also be added the saving of the coal which was required for working the engines previously to the establishment of the destructor.

In a dispatch subsequent to the foregoing Consul Bradley transmitted a printed report, prepared by the engineer inspector of the local government board of London, from which the following extracts are taken:

BURNING SCREENED REFUSE.

The burning of screened or selected refuse under steam boilers is in practice at Manchester, Bolton, Glasgow, and Birmingham. At the three first-named places large grate area, a thin fire, and frequent clinkering and firing are depended on; but at Birmingham there are special arrangements which deserve notice. At the Montague street wharf, where by far the larger part of the refuse is burned under boilers to raise steam for drying excreta, there are thirteen multitubular boilers, eleven of them 13 feet long and two 11 feet long, and all 6 feet 6 inches in diameter. They have fire grates 5 feet wide and 5 feet 6 inches long, fitted with patent lifting and moving fire bars, designed to break up the fire and prevent clinkers forming in large cakes and to keep the spaces between the bars clear. The play of the bars can be regulated to suit the kind of refuse burning, or it can be stopped entirely. The effect when in use is to work the clinker to the back, where it falls over the end of the fire grate and is removed when cool from the ash pit. The refuse burned under these boilers is that from which the fine ashes have been screened for mixing with excreta, and there is no difficulty in maintaining steam at sufficient pressure to be used for drying excreta. There are, besides, two Galloway boilers, 27 feet 6 inches long and 7 feet 6 inches in diameter, fed with cinders screened from the refuse and mixed with slack, which raise steam for two 25-horse-power engines which drive the machinery of the yard.

THE FIRE-DESTRUCTION SYSTEM.

The escape of dust and of smell from the chimney must be regarded as defects to be remedied, especially where the air is not already polluted by factory chimneys. Much in the way of prevention may be effected by careful and systematic firing and feeding, combined with large flues or dust chambers, frequent removal of dust, and proper regulation of the draft. When these precautions do not suffice, passing the products of combustion through or over a second fire appears to be the most promising means of destroying smoke or smell and preventing the escape of dust.

In other respects the burning of town refuse by furnaces already in use appears to be successfully carried out. There is no accumulation of an offensive material at the works, and

very little smell. Everything combustible is burnt within a few hours of collection without nuisance and at a cost which compares favorably with the old system of carting the refuse to tips. A valuable means is at the same time provided for effectually disposing of infected bedding and clothing, condemned meat and provisions, and the carcasses of diseased animals. Further improvements may be expected, but the results already attained show that the destruction of the refuse of towns by fire is not only practicable, but is the best, and often the only way of dealing with it in a manner to satisfy sanitary requirements.

BURNING DISEASED ANIMALS AND CONDEMNED FOOD.

Considerable care is now taken [in Leeds] with the charging and clinkering of the furnaces. At first all the cells were clinkered and charged, one after the other, every two and a half hours as quickly as the men chose to do it; but now a pair of cells are charged every twenty-five minutes regularly. The result is that the temperature in the main flue is more uniform, and there is less smoke from the chimney.

The fires are kept continuously alight, except when drawn for repairs. The furnaces are filled up and banked about 1 p. m. on Saturday, and the damper is closed at 7 p. m. till 12 on Sunday night. The amount burned in the year ended August 31, 1886, in twenty cells was 35,248 tons, giving an average of 34 tons per cell per week, consisting of refuse from ash pits, with trade and market refuse. Mr. J. Newhouse furnished the following list of other things destroyed during the same period: Eleven cows, 3 calves, 17 sheep, 4 goats, 298 hogs, 5 turkeys, 2 carcasses of beef, 28 quarters of beef, 9 cwts. of pork, 10 cwts. of pickled tongues, 12 cwts. of herrings, 218 cwts. of shellfish, 1 cwt. of sugar, 285 dogs, 109 cats, 13 foxes, 1 sea serpent; 147 mattresses, beds, pillows, and bolsters; 7 blankets, quilts, and sheets; 36 pieces of carpet, 7 hearth rugs and mats, 33 pieces of wearing apparel, 1 bedstead, 1 sofa, 1 chair, and 1 bundle of rags.

This is not an unusual year's work, and the destruction of diseased animals and condemned food is constantly effected without offense. On one occasion, on an outbreak of swine fever, 200 hogs were burned, and in one afternoon 50 were destroyed, 3 at once in a cell, only a faint odor of roast pork being preceptible on a hill to leeward of the chimney.

THE ORANGE FREE STATE.

HISTORY.

On the 23d of February, 1893, the Orange Free State celebrated its thirty-ninth birthday as a free and independent Republic. Prior to this the English Government took possession of the country, proclaiming British sovereignty over it. The inhabitants at that time consisted of Dutch pioneers who, being irreconcilably opposed to British rule, left the Cape Colony to found their own home (1812–1835). Scarcely had these emigrants cleared the way of savage kaffirs and brought others to submission when the British stepped in, taking formal possession of this country (1847). The English Government, however, too weak in keeping the kaffirs in check and unsupported by the emigrant boers (farmers), soon found that it would cost them more to hold the country than it was worth.* On the 23d of February, 1854, it offered freedom and liberty to the emigrants, who thereupon founded the Orange Free State.

* It was not known before 1878 that the Orange Free State was a diamond-producing country.

SIZE AND BOUNDARIES.

The average length of the Free State is 400 English miles and the average breadth about 150 miles, with a surface of 60,000 square miles or 31,062,625 acres. The country has the form of a bean or kidney and may be termed the center of South Africa. It is bounded on the north by the Vaal River (the term "vaal" means gray, that being the color of the water), which divides it from the Transvaal, or the South African Republic. To the south the Orange River (the water being of an orange color) separates the Free State from the Cape Colony; on the east it is bounded by Basutoland—a country inhabited by a tribe of kaffirs called Basutos, who are under British protection—and the colony Natal, a crown colony of England; on the west by the world-renowned diamond-producing district of the Cape Colony called Griqualand West, named after a certain type of people originally from white fathers and black mothers.

DIVISION.

The Orange Free State is divided into nineteen districts, these districts again into wards, and wards are made up of large extensions of land called a farm. These farms vary in size and contain from 2,500 to 12,000 acres. There are altogether sixteen thousand farms in the Free State. Each district has at the head a "landdrost" (magistrate).

NATURAL FEATURES.

Although the Orange Free State possesses a few ranges of mountains, it is a decidedly level country, the greater portion of which is composed of vast undulating plains, with small table mountains, but more often stony hills and knolls—known locally as "randjes" and "spitskoppen"—dispersed here and there over the face of the country. The rivers are mostly narrow and rapid, having exceedingly high and steep banks. They can not be made available for internal communication, owing to the frequent occurrence of shallows and rapids. The State is nearly treeless—the plains quite so. Some of the rivers are fringed with willow and mimosa trees. Great efforts have been made both by the Government and local societies to encourage tree-planting.

CLIMATE AND PRODUCTIONS.

The country, lying as high as 5,000 feet above the level of the sea, is cold in winter and is in summer visited by violent thunderstorms often accompanied with hail. The climate is nevertheless dry, and the country therefore very healthful, particularly for those who suffer with consumption and other pulmonary complaints. Numbers of invalids, after having sought relief in vain in the southern parts of Europe, have visited the Free State; and many have not only prolonged their lives, but have entirely recovered. The winter seasons are free of snow, and it is quite a novelty if for one day in the year it should happen to snow. The country is often subjected to long droughts. It is almost exclusively a pastoral country, only a very small area

being under cultivation. Sheep, goats, horned cattle, horses, and mules thrive remarkably well; ostrich farming, also, is carried on to some extent. Game is still abundant, especially the springbok, a species similar to the chamois. The rivers abound with fish.

PEOPLE.

The population of the Orange Free State is about 210,000, including the kaffirs. The official language is Dutch and differs slightly from the Dutch as spoken in Holland. The farmers and largest landowners are for the greater part descendants of the Huguenots, who emigrated to South Africa in 1687. The rest are of English and German descent. The commercial people are Germans and English; the Free Stater prefers farming.

EXTRACTS FROM THE CONSTITUTION.

CITIZENSHIP.

Burghers (citizens) of the Orange Free State are constituted of the following classes:

(1) Whites born in the State before and after the 23d of February, 1854.

(2) Whites admitted as burghers under the constitution of 1854 and under the modified constitution of 1866.

(3) Whites who have resided in the State for one year and who possess fixed property registered in their names to the value of £150 ($750).

(4) Whites who have resided in the State three successive years and have given a written engagement of allegiance to the State and its laws, for which a certificate has been granted them by the landdrost of the district in which they reside.

(5) Civil and judicial servants who, before entering upon office, have taken the oath of allegiance to the State and its laws.

RIGHTS OF SUFFRAGE.

Burghers of 18 years of age and upwards have the right of suffrage at the elections of field cornet and commandant.

Registered voters for President or members of the Volksraad require the following qualifications:

(1) Burghers born in the State aged 21.

(2) Burghers having unencumbered fixed property registered in their names for an amount of £150.

(3) Burghers paying a rental on fixed property of £36 per annum.

(4) Burghers drawing a fixed salary of £200 per annum.

(5) Burghers having movable property amounting to £300, and who have resided at least three years in the State.

THE PRESIDENT.

The State President is elected by the registered burghers, the Volksraad nominating one or more persons for election. The President is elected for five years, but he is eligible for reëlection. He is chairman of the executive council, has the control of all public departments, and administration of all matters pertaining to the public service, for which he is answerable to the Volksraad, his transactions being also subject to appeal to that body. He has the prerogative to fill all vacancies in the Government offices, subject

to the confirmation of the Volksraad; to suspend any Government official; and, with a majority of the executive council, to exercise pardon in any criminal case. He declares war (with the sanction of the Volksraad) and concludes peace. His salary is $15,000 (£3,000) per annum.

THE VOLKSRAAD (CONGRESS).

The highest legislative power is vested in the Volksraad, the members of which are elected by their constituents for four consecutive years, there being one member for each ward and for each chief town of a district. Of this number half retire by rotation every two years, new elections taking place to fill up the vacancies. The Raad meets in session annually at Bloemfontein, and an extraordinary session may be convened by the State President for the consideration of any urgent question. Any burgher is eligible for election who has not been found guilty by a jury of any misdeed, who has never been bankrupt or insolvent, who has his fixed residence in this State, who is not under 25 years of age, and who possesses fixed property to the value of at least £500. A member of the Raad is forced to resign should he be absent from two successive yearly sessions. The Raad elects at its yearly session a chairman from its members, the chairman having a casting vote. Twelve members make a quorum. The total number of members is 52.

THE EXECUTIVE COUNCIL.

The executive council consists of the landdrost of Bloemfontein, the Government secretary, and three unofficial members elected by the Volksraad, who assist the State President with their counsels. It meets as often as is required. It draws up its yearly report of transactions and submits it to the Volksraad. A majority of half has the power of convoking the Volksraad in extraordinary session; it has also the power of declaring martial law.

LAW COURTS.

The law courts of the State are:

(1) The landdrost court, having police and criminal jurisdiction. It can bind over in the sum of £100 for six months, fine up to £5, imprison for three months with hard labor, and inflict corporal punishment up to twenty-five lashes. It has civil jurisdiction in all cases up to £37 10*s*.

(2) The landdrost and heemraden (*Dike-reeve*) court, consisting of the landdrost and two assessors, who can bind over in the amount of £100 or twelve months, fine up to £10, imprison with hard labor for four months, and inflict corporal punishment up to thirty-nine lashes. It has civil jurisdiction in cases up to £75. Six heemraden are elected by the Volksraad in each district, who hold office for two years.

(3) The high court consists of three judges, of whom one goes on circuit. This court has unlimited jurisdiction, and can try all serious crimes and offenses, and dispose of all civil cases from £75 upwards.

COMMANDO (MILITIA).

The field cornets are elected by and from the burghers of each ward. A field commandant is elected in each district by and from the burghers. The field cornets and field commandants, combined (or *commando*), elect from their numbers in case of war their own commandant-general, who takes supreme command of the whole, receiving his instructions from the President. The combined commandants and field cornets, during the course of war, may depose the commandant-general and nominate a successor, having notified their reasons for so doing to the State President, who shall fix a day for a new election. After the war the commandant-generalship ceases to exist. The field cornets and commandants must be residents in their respective districts and be owners of fixed property. All burghers from 16 to 60 years of age are liable to *commando* service. The whole military force amounts to about 21,000 fighting men. The only standing military corps is the artillery at Bloemfontein, the capital. The men to the number of 50 to 60 are commanded by a captain, one lieutenant, and six noncommissioned officers. The heavy guns are of Krupp's make. The fort contains only eight Armstrong 9-pounders and six Krupp 9-pounders. The artillerists serve three years as volunteers; they receive a pay of 24 cents per day, a free education, and free subsistence during that time. About three hundred men have already been trained at that institution, who can be called up at any time to do duty if required.

Although the kaffirs, *i. e.*, the befriended ones, have to assist in time of war, and although they pay taxes in different shapes, yet they do not enjoy the right of suffrage. They have no say in any matter and are looked upon as a class of animals of the better and more useful sort, not being allowed to live among white people.

AGRICULTURE.

The annual agricultural show was held here on the 15th of February last and was well attended, not alone by Free Staters, but also by people from surrounding countries. The chief exhibits were wool, horses, cattle, sheep, wheat, and other productions; also a great number of American agricultural implements of the latest improvements, which implements were greatly admired by the farming population.

The next day the first agricultural congress assembled for a two days' session to discuss all matters relating to the improvement of agriculture; it was well attended and represented from all parts of the Free State. This congress is to meet annually at the capital—Bloemfontein.

The crops are now in, and breadstuffs have fallen in price; but with the winter season before us it is anticipated that they soon will fetch the prices of last year.

COMMERCE.

Trade has somewhat decreased at the capital, and merchants begin to complain. It is, however, not so in other parts of the Free State, where

shopkeepers still have a medium trade. There is nevertheless a great demand for American agricultural implements and windmill pumps.

MINING.

The production for the twelve months ending February, 1893, of the Yagersfontein Diamond Mine amounted to 166,712 carats, valued at about $1,600,000. The present average value of diamonds is: For Kimberley diamonds, $8 per carat; Yagersfontein, $10. By the price per carat quoted it will be seen that the Yagersfontein production is, on an average, superior to the class of diamonds found in Kimberley and elsewhere. The mine is peculiar in producing the perfect "blue-white" class of diamonds, which are considered superior to any other. At the present rate of working, the Yagersfontein mine can be worked at least another fifty years and will yield comparatively more diamonds year by year, as in diamond mining the deeper a mine is worked the better the yield and quality become.

E. R. LANDGRAF,
Consular Agent.

BLOEMFONTEIN, *April 1, 1893.* (Received June 9, 1893.)

KOREAN TRADE IN 1891-'92.

The most noticeable feature of the Korean trade returns for 1892 is the falling off in both imports and exports as compared with the previous year. The year 1891, however, represented the high-water mark of Korean trade, and it is not surprising that the tide should now turn back. Prosperity in Korea to a certain extent depends upon conditions in Japan, Korea's largest customer. More than 90 per cent of Korean exports goes to Japan; the prices of rice and beans, the two great staples of Korea, are controlled by the crops of that country. In 1892, the crops in Japan being good, Korea could not sell there the same amount of products as in 1890 and 1891, and consequently had not as much money available for her own purchases.

Large stocks of cotton goods were carried over from 1891, and the continuous depreciation of the currency (copper cash) and consequent uncertainty of values, added to the fluctuations of silver, contributed to produce the dull and unremunerative trade of 1892.

In his report for 1891, the chief commissioner of customs estimated that the entire import trade was derived from the following countries in the proportions mentioned:

Country.	Per cent.	Country.	Per cent.
Great Britain	55.5	France	2.5
Japan	18.5	Holland	0.5
China	15	Other countries	1
Germany	4.5	Total	100
United States	3.5		

England, being the principal source of supply, has, of course, been the chief sufferer by the late depression; but it so happens that American trade, instead of losing, has gained very considerably during 1892, not only in cotton goods, but in kerosone oil, the leading articles imported. A much larger quantity of both has been sold than before, and the above proportions do not hold good. American drills are growing in favor and may eventually command a fair share of the trade, as they have done in the north of China. Our sheetings, however, are not liked; they are too heavy and coarse. The Koreans prefer the smoother fabric of the fine English sheetings, though filled with size.

I append a table of very considerable interest, showing the entire trade of Korea since it was opened to western nations, values being given in Mexican dollars:

Years.	Exports.			Imports of goods.	Balance of trade against.
	Goods.	Gold.	Total.		
1884	$425,613	$312,022	$737,635	$999,720	$262,085
1885	388,023	141,594	529,617	1,671,562	1,141,945
1886	504,225	1,130,488	1,634,713	2,474,185	839,472
1887	804,996	1,388,269	2,193,265	2,815,441	622,176
1888	867,058	1,373,965	2,241,023	3,046,443	805,420
1889	1,233,841	982,091	2,215,932	3,377,815	1,161,883
1890	3,550,478	749,699	4,300,177	4,727,839	427,662
1891	3,366,344	689,078	4,055,422	5,256,468	1,201,046
1892	2,443,739	852,751	3,296,490	4,598,485	1,301,995
Total	.....	.....	21,204,274	28,967,958	7,763,684

These are the statistics of the regular business through the custom-house. There is, besides, some frontier trade and more or less smuggling at Ping Yang. There is also some red ginseng smuggled outward, and perhaps some opium smuggled in; but practically this represents the business of Korea with foreign nations. There is in these nine years, it will be observed, an apparent excess of imports over exports of some $8,000,000. This may be sufficiently accounted for, however, by the undeclared gold export, and, as it is not impossible that imports have been undervalued, especially of late, owing to the unremunerative character of the business, in order to reduce the duties under an ad valorem tariff, the actual balance to be accounted for may be larger still.

OIL.

The introduction of the tank system for the storage of petroleum is likely to revolutionize the trade in the East, and the American product may be driven out by the greater cheapness of the Russian. Both are now selling, I am told, at a loss.

RICE.

The chief objection to Korean rice in Japan is the careless and imperfect manner in which it is cleaned. In itself, however, it is superior in quality

to both the Chinese and the Japanese grain, and the introduction into Chemulpo of the Engelburg huller by an American firm is likely to work a revolution in the trade. This machine delivers a clean white rice, entirely free from dirt and husks, and, although just becoming known, is taxed to its utmost capacity.

FISHERIES.

On the east and southeast coasts these have yielded enormously rich returns. They are a great source of wealth to Korea, and perhaps it is not too much to say that the supply of fish has compensated for the deficiency of cereals during the past year. I quote from a report of Mr. Hunt, commissioner of customs at Fusan:

Extraordinary numbers of cod and herring were netted daily during the season, and in December the shoals of herring caught on the east coast were so phenomenal that level ground suitable for drying the fish previous to exportation as manure to Japan was insufficient. In the vicinity of Neshau, 45 miles northeast of Fusan, the hills were strewn with them, and the air was foul. The nets in use are of inferior make, otherwise the catch would be larger.

GOLD.

As is usually the case when crops are small, the export of gold has become larger. The scale of agricultural wages being reduced, the workman turns his attention to washing for gold. The declared export of 1892 was $852,751, against $689,078 for 1891, or an increase of $163,673. How much is taken away privately it is impossible to say, but probably three times as much. In China it is commonly estimated that the declared production is not more than one-tenth of the whole.

MINT.

The transfer of the mint from Seoul to Chemulpo and the completion of its establishment there was effected during 1892. A few coins were struck off, but not placed in general circulation, as the representative of the Chinese Government objected to them. The inscription "Ta Cho Sen" appeared on the coins, and as the character "Ta" (meaning great) is used by China to designate that Empire, it was considered an improper assumption for a tributary country, as Korea is regarded by China. Operations ceased, and, a dispute arising between the Japanese contractors, one of whom wished the contract annulled, the Government discharged the workmen and paid off all its obligations in connection with the mint.

According to the terms of the contract, which was made with a Japanese syndicate, five coins were to be issued. The relative value of these coins is based on the cost equivalent and is as follows:

(1) 5-"yang" silver piece (similar to Japanese silver yen), equal to 500 cash.

(2) 1-"yang" silver piece (similar to Japanese 20-sen piece), equal to 100 cash.

(3) A "tu ton o pên" nickel piece (similar to Japanese 5-sen piece), equal to 25 cash.

(4) An "o pên" copper piece (similar to Japanese 1-sen piece), equal to 5 cash.

(5) A "han pên" copper piece (nominal equivalent of 1-cash piece), equal to 1 cash.

The contract was for five years, and $3,000,000 worth of these coins were to be issued each year, or $15,000,000 in all. Public opinion is generally adverse to the scheme. The copper cash is to be made without the hole in the middle, and it is not probable that this will be accepted by the people. A similar attempt in Hongkong many years ago was a complete failure.

SHIPPING.

With the exception of a vessel of the Chinese Steam Navigation Company, which makes the trip Shanghai–Chefoo–Chemulpo and return every three weeks, we are dependent on Japanese steamers for frequent communication with China and Japan and thence with the outer world. No merchant vessel under the American flag has been seen here for many years. During 1892 a small British steam whaler touched two or three times at Fusan to sell its catch, which explains that entry in the tables. The German flag was carried by a steamer belonging to the Korean Government and not entirely paid for. The Russian steamer *Vladimir*, on the Shanghai–Vladivistock route, touches at Fusan twice a month, and the steamship *Strclok*, during the spring, carries rice regularly to and from Fusan and Yuensan.

PORTS.

Another American firm, a branch of the China and Japan Trading Company, has established itself at Chemulpo, making two in all. There are two German firms, but no British, although England supplies more than half of the total imports and nearly all the cotton goods. The settlement, or rather the three settlements—the general foreign, the Japanese, and the Chinese—are all prosperous. Population is increasing, new buildings are going up, and the value of land is well maintained. The handsome municipal buildings are approaching completion, and the whole aspect of the place is one of activity.

At Fusan some steps have been taken towards the formation of a foreign settlement, but the site available is inconvenient. The water front is very restricted and is nearly all appropriated by two Russian firms and one American. Nearly all the business of this port is in the hands of the Japanese, who number over 5,000 souls.

No attempt has yet been made to lay out a settlement at Wönsan (Yuensan).

It will be seen from the following table that the number of American residents in Korea exceeds that of any other western nation.

Foreign population of Korea.

Countries.	Seoul (residents).	Jenchuan.		Fusan.	
		Firms.	Residents.	Firms.	Residents.
United States	69	2	4	.....	6
Great Britain	28	.....	5	.....	8
France	24	.....	1	.....	2
Germany	4	2	16	.....	3
Russia	12	.....	.....	.....	.....
Japan	734	20	2,540	96	5,133
China	748	15	637	5	156
Italy	.....	.....	2	.....	.....
Spain	.....	.....	1	.....	.....
Denmark	1	.....	.....	.....	.....
Portugal	1	.....	1	.....	.....
Norway	.....	.....	2	.....	1
Total	1,621	39	3,209	101	5,329

Countries.	Yuensan.		Total.	
	Firms.	Residents.	Firms.	Residents.
United States	.....	.....	2	79
Great Britain	.....	10	.....	51
France	.....	1	.....	28
Germany	.....	2	2	25
Russia	1	1	1	13
Japan	40	705	156	9,132
China	6	63	26	1,604
Italy	.....	.....	.....	2
Spain	.....	.....	.....	1
Denmark	.....	1	.....	2
Portugal	.....	.....	.....	2
Norway	.....	.....	.....	3
Total	47	783	187	10,942

The figures are derived from the customs statistics, excepting those of the foreign residents in Seoul. The number of Japanese and Chinese firms in Seoul is not stated.

AUGUSTINE HEARD,
Consul-General.

SEOUL, *April 25, 1893.*

AMERICAN AGRICULTURAL IMPLEMENTS IN ENGLAND.

The annual agricultural show is being held this year in Southampton, and I personally inspected the machinery department and conversed with those who have an expert knowledge of farm implements.

There were specimens of reapers and self-binders from three countries—America, England, and Canada—all priced at about $225 list, with, of course, a percentage off. According to unbiased testimony, the American

machine is lighter, simpler, and more convenient than any of the others; the cost of maintenance is at the minimum, and draft much easier.

American horse rakes are neater, lighter, and about 25 per cent cheaper than the English kinds—the American list price being $40 and the English price $50 to $60.

The American plow is very much superior to any other kind, particularly as a digging machine, being lighter and the shears and points more durable. The English makers can not properly chill points and other parts, their process rendering the metal very brittle, while the American process makes the iron tough and at the same time very hard. It is also susceptible of a high polish, which is another advantage. In certain localities wooden-beamed plows can not be disposed of at any price, though of one kind—the Oliver chilled, of South Bend, Ind.—12,000 have annually been sold. I think if our manufacturers would adopt the style of iron-beamed plows the trade would be extended. The American style caused the English makers to imitate, as the old style was so heavy; and though it made a pretty furrow, it did not disintegrate the soil, but pressed or packed it down, making the harrow do the rest.

In every way English machinery is certainly strong, but frequently needlessly so, and neatness and fine workmanship do not seem to be studied.

In the matter of farm wagons and carts I do not see any reason why American makers can not obtain a fair share of trade if certain features in construction be observed.

Certain buggy and carriage manufacturers have forwarded lists of prices and cuts of their wares, but there is no use trying to introduce vehicles which can not be "turned" in a small area or a narrow road. That American buggies and carriages are neater, more artistic and highly finished there is, in my opinion, no doubt; but no vehicle should be sent over here which has not an "undercut."

Of course, pony phaetons should sell, on account of beauty; and gigs and semisulkies might sell and become popular. Buck wagons will never come into use here.

If these agricultural shows could be attended by American commercial travelers, good results might ensue.

JASPER P. BRADLEY,
Consul.

SOUTHAMPTON, *June 8, 1893.*

AMOY TRADE WITH THE UNITED STATES.

Owing to the fierce competition which now prevails in almost every industrial field in America, the manufacturers are bound to obtain new markets for their goods. Among all foreign countries, China offers the greatest promise in this regard. Europe buys our breadstuffs, food animals, cotton,

and petroleum, but practically none of our manufactures. With China the case is very different. It buys our raw materials in large quantities and many of our manufactures. The trade is already large and lucrative. In Amoy and, in fact, in nearly every Chinese treaty port can be found such American goods as kerosene, wheat-flour biscuits, dried and preserved fruits, Waterbury watches, Ansonia clocks; Virginia, North Carolina, and New York cigarettes and smoking and chewing tobaccos; canned tomatoes, peaches, and pears; Lanman & Kemp's Florida water; Siddall's, Colgate's, and Packer's soap; the patent medicines and preparations of Ayer, Hood, Bristol, Schenck, Jayne, Kemp, McKesson & Robbins, Wyeth, Barclay, Brandreth, Johnson, Jensen, Vogler, and Osgood; cotton and woolen tissues; beer, wine, and whisky; ginseng, perfumery, resin, pitch, and turpentine. The reports of the imperial maritime customs show that more than five hundred different kinds of American goods find a demand among the Chinese.

Wise counsels and systematic hard work can increase this traffic to an unlimited extent. Carelessness and neglect may injure it irretrievably and enable the merchants of Europe, and especially of Great Britain, to drive us out of the field. Even now an American consul is constantly confronted with the singular spectacle of foreign dealers doing two-thirds of all the business done in the goods of his own land.

TRADE WITH FOKIEN.

It may be well at the beginning to disabuse the reader of the common error that Amoy is a little town and Fokien an insignificant province. The city, with its suburbs, contains over 1,000,000 population, and is so busy with its many industries as to be a human beehive. The province is one of the largest and most important in the Empire and has an estimated population of over 5,000,000. The imports and exports of the province through the five treaty ports—Amoy, Tamsui, Taiwanfoo, and Fuchau, which are situated within its boundaries, and Swatow, which is just beyond its limits—aggregate $60,000,000 annually. How much more passes through the many nontreaty ports can only be conjectured, but must amount to a very large sum. Thus, for example, there are two cities—Chin-Chow and Choan Chow—near the coast which have each a population estimated at over 1,000,000. Each enjoys a considerable commerce through the nearest coast ports. Though they deal largely through Amoy, Fuchau, and Swatow, they also trade directly with points in every direction upon the shores of the Empire.

Amoy is the only good harbor of Fokien. Its opening was of late date, so that the foreign commerce of the province may be said to be still in its infancy. For this reason labor is extremely cheap—cheaper than at Hongkong or Shanghai. So are food, rent, clothing, and the common necessities of life. A ship or steamer can go into dock and be thoroughly repaired in Amoy at the New Amoy Dock Company's establishment cheaper than at any other place in the eastern hemisphere.

DIRECT TRADE BETWEEN AMOY AND AMERICAN CITIES.

In weighing business propositions allowance should be made for this low cost of labor and other necessities. Under the first head there is no reason why the commerce between Amoy and American cities should not be done directly, and not, as is now the case, through the medium of Hongkong, San Francisco, London, and New York. Breaking cargo is not as expensive in China as in America, seldom costing one-fourth as much. For this reason home goods ought to be shipped from the port nearest to the place of production and return cargoes brought to the center of consumption. Boston, Philadelphia, Baltimore, Charleston, Mobile, New Orleans, Galveston, Portland, and Tacoma are cities to which this principle applies with especial force. Take the single article of tea. The Formosa Oolong, which is notably the purest and finest leaf in the world, is shipped in great quantities to the United States, but chiefly to New York. There and elsewhere it is blended and compounded and then distributed over the country. The head of the family hardly ever knows what he buys, and but too often is defrauded in his purchase. Direct commerce would enable the grocer and the consumer to obtain genuine goods and at a considerable saving on the present system. The change will meet with much opposition. The rich importers, jobbers, and wholesale grocers of New York city will leave no stone unturned to prevent a course of action that deprives them of a large and lucrative business. If any merchant desires to make a venture along the lines suggested, he can open correspondence with any one of the Amoy tea hongs. These are five in number, viz: Lapraik, Cass & Co., Tait & Co., Boyd & Co., Jardine Matheson & Co., and Brown & Co. They are all first-class firms of great business ability, character, and standing.

A HINT TO AMERICAN MERCHANTS.

Merchants in other cities may set an example to their New York colleagues and try the experiment of importing the finer qualities of tea. At the present time the competition in the Eastern and Middle States is so intense that the only consideration is cheapness, to the absolute disregard of quality. The bulk of the tea imported leaves the hands of the Amoy dealers at less than 30 cents (Mexican) per pound—about 20 cents in American money. Poorer grades than these are not uncommon. In fact, it must be confessed that there are large establishments at home which are ever eager to obtain tea sweepings and refuse from the godowns, wherewith to either offer "special bargains" to unscrupulous grocers or to mix with wholesome leaves in order to gain an abnormal profit. The average Formosa tea is sold at home at from 50 cents to $1.25 per pound, the difference going into the pockets of the numerous middlemen in the trade. These teas are excellent, so far as they go, but not to be compared with the finer grades of the leaf, which cost in Amoy from 50 cents to $1 per pound. The American people are noted for their desire to have the best of everything, and if they were once taught—as they can be by judicious advertising—that the teas they

habitually use are inferior to the matchless, high-priced teas of Formosa, they will eagerly buy the latter if they have to pay five or ten times what they generally expend. No American metropolis buys these teas in any appreciable quantity. Of the supply in this district, the larger portion is employed to enrich or improve a poorer leaf; the lesser portion is exported in small consignments to special customers.

A field which is practically untouched is the importation into the United States of the curios, work of art, household ornaments, and decorations for which the people in this part of China are famous. All of these wares would find a ready sale in American stores. Their novelty, attractiveness, and cheapness would give them an immediate welcome. They would make an admirable feature in such stores as fancy goods, house furnishing, art, and notions. The best concern in Amoy with which to enter into negotiations is Ching Gong Frayne & Co.

FURNITURE AND HOME SUPPLIES

Another field is that of furniture and other household supplies. Among these may be mentioned:

(1) Chairs, tables, lounges, sofas, stools, and couches made from bamboo and rattan. Good serviceable bamboo armchairs retail in Amoy at from 50 to 75 cents and at wholesale could probably be purchased at $4 per dozen. They are handsome, clean, and strong.

(2) Table, wash, and kitchen service. There is a large export of these goods from Amoy to Java, the Straits Settlements, Sumatra, and other places in the far Orient. The wares are stout, durable, and very cheap. For cooking and other kitchen purposes they are excellent. Earthenware quart jugs can be bought for 8 cents per dozen; decanter jugs, preserve jars, sauce bottles, and the like are equally cheap.

(3) Preserved food. This would comprise ginger, limes, bitter oranges, lai-chees, langngans, arbutus, and other fruits; bean gluten, rice flour, chestnut flour, dried fish, shrimps and prawns, mushrooms, cabbage, matais, and water chestnuts. All are well put up and reasonably cheap in price.

(4) Special woven textiles. In the East are many beautiful and valuable products of the looms which are used at times by fashionable or artistic people in the great cities of America and Europe, but are seldom found in the general market. Among these are Shanghai checked silk, Swatow cloth, Amoy grass cloth, Formosa cloth, and Pinas cloth. All are adapted for handsome evening dresses, for summer wear, and for ornamental purposes. In addition to these are cloths and mats made from straw, split bamboo, split rattan, and other strong fibers. Still another variety are the rugs and carpets made from the wool of the sheep, goat, jackass, and camel. They are thick, warm, and practically indestructible.

For information on these subjects the best house in Amoy is Ching Gong, Frayne & Co. Before leaving this branch of the subject, it may be added that nearly every year there is a glut of bean oil or peanut oil in the

Amoy market. Both are well adapted for soap-boiling, and, properly clarified by any American chemist, would be excellent substitutes for cotton-seed oil, cottolene, "mixed lard," or poor olive oil. They are used in immense quantities in China. The houses to whom to apply for information are Pasedag & Co., Peterson & Co., and Ching Gong, Frayne & Co.

THE PAPER INDUSTRY.

A great industry in Amoy is the manufacture of paper. In fact, it is the largest business in the city and gives employment to many thousands. A wonderful variety of paper is produced, ranging from the thinnest tissue to heavy and extra heavy book paper. Nearly all is yellowish white, that tint being regarded by the Chinese as the best for the eyesight, although the manufacturers will produce any color desired at practically no increase in price. Despite the tariff and freight, many varieties of paper could be exported direct from Amoy to the Pacific coast, if not to the Atlantic, and then sold at a very fair profit. Among these may be mentioned cheap wrapping paper, fine and fancy wrapping paper, blotters, envelope paper, and rough binders' and drawing paper. The Chinese do not use wood pulp in the manufacture. As a result their paper will last a century without becoming brittle.

FLOUR.

In the exportation of goods from our country to Amoy and other Chinese ports there is a fine future for flour. American flour is very popular, more so than any other brand, and the demand increases every year. Originally San Francisco had almost a monopoly of the business, but the high rates imposed by the Pacific Mail injured the trade and drove much of it to Portland, Oregon. It may be doubted if flour from Oregon and Washington is superior to the California article; nevertheless, such is now the general impression in the Chinese mind, and when they once form an impression it remains unchanged for many years.

In order to save expense in tonnage dues as much as possible, the steamships will find it more profitable to bring two full cargoes than six half cargoes. As steamship agents usually make allowances for these local charges and get it from the shipper directly or indirectly, the latter should see that there is a full cargo to Shanghai, Fuchau, Amoy, and Swatow, these being controlled by the Chinese customs.

Where there is an insufficient demand for flour at any coast port, the better practice would be to ship a full cargo to Hongkong or Shanghai and there break it up. There are many lines of steamers on the China coast, and freights are ridiculously low. Transshipment and freightage from the two cities named would cost less than a part cargo plus local tonnage dues.

Flour should be packed in single and double bags. For native use a coarse and cheap variety of flour is much better than the fine and superfine brands used in the United States. Bread is seldom seen on a Chinese table.

The flour that is consumed is employed for making macaroni, vermicelli, dumplings, and the like. For one dish that is baked, ten are boiled.

A CAUTION.

A word of warning may not come in amiss at this juncture. Since January, 1891, the packers of kerosene have been growing more careless in their work. When their cargoes reach Amoy, many boxes and tins are broken and many cans perforated by nails from the boxing. Besides the loss directly entailed by this slipshod work, is a more dangerous indirect loss. The Chinese buyers become frightened and purchase Russian kerosene instead of our own. Though the former is inferior in quality, their boxes and tins are in every way better than ours. In the past two years there has not arrived a cargo of American oil without a number of broken or leaky tins. On the other hand, in the Russian cargoes the damaged tins are exceedingly rare. If American shippers and packers propose to keep their trade with the East, they must bestow more care on the canning and boxing of the oil than they do at present.

LUMBER.

There should be a good export trade in lumber. Years ago there was one between Oregon and Amoy, but somehow it has fallen away entirely. This is doubtless due to the decay of American shipping and competition in Canada. Trees are very scarce in middle and southern China, and the demand for lumber is increasing. In shipping it due regard should be had for the peculiarities of the Chinese market. Thus in house-building they invariably use round poles or barked trunks ranging from 3 inches to 2 feet in diameter, and seldom or never the cut and squared beams as at home. In the manufacture of coffins they use the four outside planks or segments of a trunk and very seldom any sawn boards. The larger the original log, the more valuable the four planks. Those from trees from 5 to 10 feet in diameter command from five to ten times as much money as those one-third or one-half the size. Yellow pine, resinous pine, and other strongly scented woods are a trifle more popular than dry white pine.

A fortune lies in store for the man who will discover some process for cheaply making wood proof against white ants. These pests are the curse of existence in Amoy and every other tropical or subtropical city. Their voracity is incredible. They ate the framework of a new door in this consulate in three weeks. In the same period they almost consumed a large and handsome cabinet in the court room, and a heavy pine settee in the anteroom. Their work is invisible. They attack the wood from a mere point, through which they bore to the interior and there eat everything until only a shell or film remains. Wood which will successfully resist these insect pests must be thoroughly charged with some powerful chemical, both poisonous and nonevaporable. A solution of corrosive sublimate, chloride of zinc, arsenic, or antimony would seem to meet the want. But how to force these into the

fibers until the latter are saturated, and to do so at a merely fractional cost of the wood itself, is the problem that confronts the inventor. The American genius is so prolific in invention and discovery that I feel assured the problem will be satisfactorily solved.

It is practically impossible to give any official figures on the import of lumber. The lumber trade is in the hands of the Chinese, while the Amoy Chamber of Commerce devotes its exclusive attention to European and American exports and imports. The timber used at this port comes from the following sources:

From Vancouver and Oregon as cargoes, and as dunnage in kerosene ships from New York and in flour ships from San Francisco and Portland.

From the Philippines and Borneo.

From "upcountry" or interior districts in Fokien, west of Amoy. It is floated down the Dragon River and the smaller streams, carried in junks, and sometimes transported on human shoulders.

From Fuchau, the center of supply of this province. Its export in 1891 is recorded in the annual report of the imperial maritime customs for that year and consisted of about 5,000,000 poles or trunks and 3,000 coffin logs.

The greater part of the lumber used in Amoy comes from Fuchau and the upcountry. The territory in this district is a series of sharp and irregular granite hills, being the eastern end of the great mountain range of which the Himalayas are the culminating points. Over these hills in some glacial epoch the ice spread numberless granite bowlders, ranging from blocks of a few pounds to enormous masses weighing several hundred tons. It would be difficult to grow trees on such land. When to the natural condition of affairs is added the necessity of wood for building, furniture, and fuel, it is obvious that a tree has no show for existence. The supply, however great, was exhausted before the Christian era. Since then Amoy and its populous suburbs and neighbors have depended upon commerce for the wood they required.

The Fuchau and upcountry poles or trunks are used without squaring for floor beams, rafters, and intramural columns and pillars, and when sawn into boards, for flooring, ceilings, doors, window frames, and cheap household furniture. All Chinese houses are made with a maximum of bricks, tiles, terra cotta, and cement and with a minimum of wood. The ground floor, instead of having beams and flooring, is generally flagged or tiled. The roof is tiled either in the same way as if slated or else laid in cement so as to produce a plane surface.

Fences and outhouses are made of tiles or flat bricks set in mortar. Even the cow shed and pigpen are made in the same manner. Stairs are avoided as much as possible. Where used, the builder tries to make them of stone and brick, and, when this is impossible, substitutes a bamboo ladder. In handsome houses and for fine furniture there is a steady demand for camphor wood, ebony, teak, ironwood, and such other woods as are handsome, hard, and not so liable to attack from white ants as are the softer woods

of the subtropical and temperate zones. All of these are so expensive as to preclude their use except by the very wealthy.

THE OUTLOOK.

The outlook for the remainder of this year and for 1894 is very good. Commerce is good everywhere; the harvests are excellent; there have been no droughts, floods, or famines; and, for the first time in a decade, there has been no epidemic of cholera. This means an increase in house-building and probably a larger demand for lumber next year than this.

American lumber is popular in China and has been so many years. It works easily and well with the primitive tools and methods of the native artisans. It is greatly liked by the merchant marine of the coast, and a supply of it is kept in stock by the New Amoy Dock Company and similar institutions. Dunnage, bilge soaked or kerosened, is very popular and brings about three times as much here as it would at home.

Canned goods are growing in demand. A great trade could be made in canning the cheapest grades of tomatoes, corn, and possibly peas. The cans should be square so as to save freight, and also to allow the commercial Mongolian the empty tin for use as a box or water-holder. He utilizes the kerosene tins in this manner, and, after the oil is used, employs them as pails and pitchers, esteeming them so highly as to pay from 10 to 25 cents apiece for them. Neither the Chinese storekeeper nor his customer cares much for display, so that the canning factory would be spared the expense of the gorgeous chromos now pasted on every tin and case. All that would be necessary would be to stencil on tin and case the characters expressing "the finest, largest, and freshest tomatoes."

Salmon (canned, salted, kiln-dried, smoked, or sun-dried) would find a good market if the price was a little lower. It is more highly esteemed in the East than at home, because for generations the Orient has been in the habit of preserving fish in different styles and of using them more largely than the fresh article. It is certain that cheap canned tomatoes and dried salmon would be profitable ventures.

COTTON TRADE AND INDUSTRY.

The consular district of Amoy grows an insignificant amount of cotton. Numerous attempts at cotton culture have been made, but without any practical success. Fokien seems too dry, rocky, and extreme in its climatic changes. Northern Formosa, of which Tamsui is the capital, is too wet and windy; and southern Formosa, of which Taiwanfoo is the capital, does not seem to possess the proper kind of soil. Under Governor Liu Ming Chang extensive experiments were made in northern and southern Formosa to raise the cotton plant, but all resulted disastrously. The entire output in 1891 did not exceed 700 bales.

The trade in cotton and its manufactures is large and increasing. Its extent is extremely difficult to determine. The imperial customs, which

are under foreign management, keep accurate records of all goods imported from foreign or domestic ports. These reports are accessible to the public. The likin boards (or internal revenue officials) keep records of all brought into or transported in the interior, but their reports are absolutely inaccessible. All that the merchants know is that a large overland trade in cotton goods exists in the interior of Fokien, and that the inland markets are supplied from Canton, Hongkong, Tonquin, Swatow, Chow-chow-foo, Burmah, and even Assam and India. Of this, however, nothing can be said definitely.

The customs records show that in 1891 the imports of cotton and cotton goods into Amoy, Tamsui, and Taiwanfoo were about as follows:

Articles.	Amoy.	Tamsui.	Taiwanfoo.	Total.
Shirtings:				
Gray (plain)	*$75,000	*$70,000	*$32,000	*$177,000
White (plain)	195,000	152,000	35,000	382,000
Dyed—				
Plain	12,000	4,000	500	16,500
Figured and brocaded	8,000	8,500	1,500	18,000
T cloth:				
20 by 22	2,000	.....	.....	2,000
24 by 32	95,000	1,000	11,000	107,000
Drill (English and American)	3,000	.....	500	3,500
Sheetings:				
English	1,000	2,500	.....	3,500
American	1,000	.....	.....	1,000
Chintz	1,000	1,000	1,000	3,000
Turkey-red shirtings	15,000	1,000	3,500	19,500
Velvet	1,000	1,000	.....	2,000
Lawns	2,500	1,000	.....	3,500
Muslin	1,500	500	500	2,500
Japan crape	1,000	7,000	3,500	11,500
Cotton:				
Goods unclassed	13,000	8,000	8,000	29,000
Yarn	1,000,000	13,000	.....	1,013,000
Thread	2,000	.....	3,000	5,000
Canvas	500	500	500	1,500
Cotton wool bat and batting	500	500	500	1,500
Total	.....	.....	.....	1,796,500

* Mexican dollars.

Cotton yarn comes almost exclusively from India, that country having driven Great Britain practically out of the market. The trade has passed into the hands of Parsee and Chinese merchants, who do business on a much smaller margin of profit than do their European and American rivals. A small quantity of yarn comes from Manchester and other countries; none comes from the United States. At one time the Chinese made most of their own yarn; but, on account of their spinners refusing to change the old-fashioned methods and of the Hindoos adopting the most modern forms of machinery, especially English, the home manufacture has been killed in the coast and river districts and only survives in the far inland provinces. Here it is still done by hand as it was fifty centuries ago. Infirm men and crippled boys are taught to spin, as are women from early childhood. The system

is very simple. The raw cotton undergoes a preliminary cleaning at the hands of itinerant artisans. They lay it on a long board and there strike it rapidly with the string of a heavy bow. The bow hangs from a bamboo frame fastened to the workman's back. He adjusts the bow with his left hand and uses the right to arrange the fiber. The concussion of the bowstring shakes out the seeds and dirt and at the same time breaks the fiber to an appreciable extent. A skilled hand cleans from 50 to 100 pounds per diem, and is paid either a daily wage of about 10 cents, or a round sum on contract for a whole lot. The seeds are separated from the dirt and made into oil, oil cake, fertilizer, and food for domestic animals. The cotton-seed oil is not clarified or used as a food substance. It is strained and used for illuminating. Finer qualities are sometimes used for cooking. The cotton is now spun upon an ordinary distaff and wheel. The product is a very fair yarn, and, according to the demand of the market, ranges from a thin thread to a coarse worsted. In districts where there are large fishing interests a special kind is spun for nets. The latter industry is also on the decline, owing to the greater cheapness of cords and twines spun by European machinery. When a large quantity of yarn is finished, it is generally taken to the nearest market. There are a few weavers and looms in the smaller villages, but the total number is insignificant. In the large cities there are always mills which buy the yarns and from them turn out a good, durable cloth or drill. In the beginning of the century this was a large and lucrative trade, but it has grown smaller and poorer every year. In the southern provinces, where traffic facilities are large, the trade is practically ruined. So complete is the downfall of the industry that the farmers of those districts, who formerly grew a little cotton, whose wives and children spun and wove it, and who supported hundreds of small factories, now find it more profitable to raise tea, sugar, opium, peanuts, vegetables, and other agricultural and horticultural products. In the districts back of Amoy, particularly those bordering on Chi-Kiang and Ho-Nan, the industry is not quite extinct. In the northern provinces it still prevails, though it does not thrive. The long winters give so much leisure time to the vast population that the slender financial returns from spinning and weaving are in many instances the only source of revenue to families and even entire communities. In addition to this, the cloth thus made is exceptionally good and strong and is always in demand in the northern market.

Another cause of these industrial changes lies in the increasing demand for silk and silk fabrics. Thus in Wen-Chow and Tai-Chow, north of Fo-kien, the cotton industry is being replaced by silk. The Chinese people from time immemorial have made silk their favorite, if not their sole, fashionable attire. In addition to supplying themselves, commerce calls upon them more and more to supply other nations. As a result many factories which once purveyed solely to home consumption now turn out their work for foreign trade alone. The natives whom they formerly supplied have been obliged to look to other sources, and new mills have sprung up in response to the demand. The industry at the two cities named is pros-

perous and deals in special tissues for Chinese use exclusively. It requires so much labor in the cultivation of the mulberry tree and the rearing of the cocoons that it gives regular and profitable employment to thousands of families who in former years depended entirely upon cotton for their support.

CHANGES IN COTTON-CLOTH MARKET.

In cotton cloths the markets are undergoing several changes. In the first place, the Chinese merchant is taking the trade away from the European. He is satisfied with one-half or one-fourth of the profit demanded by the latter. He lives economically and pays his clerks and other employés a monthly wage smaller than the weekly one paid to Europeans. Were it not for his singular aversion to modern systems of banking and finance and his seeming inability to master the intricacies of exchange, he would to-day control the markets of China. As it is, he hires his European competitor to attend to this part of the business and even then undersells him in the same market.

Second. The Chinese buyer has been deceived so often by the adulterator and imitator that he has lost much of his former confidence in foreign goods. English woolens and cottons were once prime favorites; but, as the quality depreciated and the practice of weighing tissues increased, they lost favor. American goods then came into prominence, and for a considerable time led the market. The unscrupulous dealer took advantage of the fact to put American trade-marks on the flimsiest products of Lancashire. The profit from the fraud was large at first. It fell away, as did the prestige of the goods themselves. To-day our cotton tissues are in good demand, but the native confidence in them is gone. In this practice of counterfeiting American trade-marks, it grieves me to state that American merchants were just as bad as Europeans. Both initiated and continued the practice, and, to add insult to injury, both taught the Chinese jobbers how to do the same thing likewise.

Third. India, Cochin-China, and Japan are entering the market. In all three countries labor is as cheap as in China, and the expense of living is equally low. In addition, they have learned to use European and American textile machinery. In consequence they turn out goods which are stronger and more honest than the European and much cheaper. Thus, for example, to-day in any China coast port one can buy a piece of Japanese cotton cloth 30 yards long and 30 inches wide for $4.50 in Mexican money (or $3 in gold) and a piece 20 yards long and 30 inches wide for $2.05 in Mexican money (or $1.38 in gold). This is 20 per cent cheaper than the native goods and 15 per cent cheaper than those from Hindustan. It is cheaper and much better than either the English or American goods.

Still more suggestive to the careful observer is the fact that both Japan and India are improving their cotton manufactures in quality and lessening their price. Twenty years ago Indian tissues were practically unknown, as were Japanese ten years ago. To-day they have almost gained control of the

Chinese markets, and in another decade, unless something unforeseen occurs, will drive Manchester and New York to the wall. In the competition it seems probable that Japan will overpower India on account of the greater intelligence, energy, and work power of its artisan classes.

Fourth. Sufficient care is not taken by manufacturers at home to ascertain exactly what the Chinese want. Apparently they have but two views—either their Eastern customer is civilized like themselves and wants what they want, or else he is uncivilized and will take anything that comes along. They seldom realize that the East is a great civilization in itself, with ideas, habits, and necessities utterly diverse from those of Christendom. Cloths stronger, coarser, and cheaper, without weighting, with less gloss and finish, like those the village coolie buys from the hawker, would meet with quicker sales and net larger profits than those with which the markets are now flooded.

There is no reason why the United States should not have a large portion of this vast trade in cotton fabrics of all sorts. There is especially no reason why the South should not have the lion's share and New Orleans be a center of commerce between that great section and the extreme Orient.

Instead of shipping goods via New York, Baltimore, or San Francisco, a proceeding as expensive as it is needless, they should be sent from either New Orleans or Mobile. From New Orleans they could be forwarded by sailing vessel around the cape or by steamer through the Suez Canal to the great markets of China. In return the ships could bring tea, silk, and the other exports of that part of the world. It is unnecessary to await the rebuilding of the American merchant marine. Present conditions are more than satisfactory. It is an easy matter to arrange with such great houses as Jardine Matheson & Co., Butterfield & Swires, the China Mutual Steamship Company, the Glen, Ben, or Shire lines of steamers to have direct communication between New Orleans and the entire China coast. With a little enterprise, energy, and self-sacrifice it is possible to develop an industry in the South to be measured in millions.

EDWARD BEDLOE,
Consul.

AMOY, *May 9, 1893.*

AMERICAN MANUFACTURES IN GERMANY.

The general condition of the trade of Germany during the past few years has been very unsatisfactory, especially so in the iron and steel industries. Prices have been low, and American imports have been largely superseded by German manufactures. The quality of the latter may not have equaled that of the former in every respect, but the prices were lower. In other words, the prices had to be taken more into consideration than the quality of the article.

I am told by one who imports American manufactures into this consular district that another obstacle in the way of American imports is the classification by the German customs officials of certain wood ware when it is composed of the smallest part of metal. Formerly such ware was so classified as to pay an import duty of only 10 marks (a mark equals about 23½ cents) per 100 kilograms,* but is now classified so as to pay 30 marks per 100 kilograms. The natural result of this is that this class of American manufacture has altogether ceased to come to Germany. It has been replaced by German manufactures. Although good American tools for wood and metal work are made dearer under these circumstances, they still continue to find a market here, notwithstanding, too, the strong efforts which have been made by the Germans to compete with them. It is principally the superior quality of the American manufacture of this class of articles that renders them salable in this market, and it is well that American manufacturers should not lose sight of this important fact if they desire to hold on to this trade.

The Germans are leaving nothing undone to crush out this branch of American business in their country. Already such articles as carpet-sweepers, freezers, wringers, meat-choppers, etc., which were formerly imported largely into Germany from the United States, have almost entirely been replaced by German manufactures. The articles have been largely imitated and put on the market at cheaper prices. It is, however, questionable whether they are as good and as durable as the American manufacture.

American agricultural implements and machinery, such as hay, manure, and turnip forks, hoes, garden rakes, shovels, and spades, are also being gradually driven out by German manufactures. American lawn-mowers continue to be imported in tolerably good quantities.

There has been great improvement going on in German manufacturing during the last decade, and the competition in the country has become very keen. Every effort is being made, too, to introduce German manufactures abroad. At a recent meeting in Hamburg of the German machine manufacturers it was decided to send expert engineers to foreign countries to study and to report the wants of the countries, in order that German manufactures might gain a foothold there. In this connection I may suggest to our manufacturers and others that it is always advisable, whenever they desire to introduce any new and useful improvement on this side, to send over specially qualified persons who are acquainted with the language to represent their interests. Herein lies the great secret of the success of the Germans in spreading their trade abroad. Messrs. Hugo Winkhaus & Co., of this city, handle very largely American manufactures, and they do their utmost to introduce and keep up the trade.

WM. D. WAMER,
Consul.

COLOGNE, *June 7, 1893.*

*220.46 pounds.

AUSTRALASIAN TRADE.

Attention should be called to the present unsatisfactory state of trade between the United States and the colonies of Australasia. New South Wales, being the principal commercial colony, will serve as a fair illustration.

The imports into and exports from the said colony during the years 1891 and 1892 were as follows:

Countries.	1891.		1892.	
	Imports.	Exports.	Imports.	Exports.
United Kingdom	£10,580,230	£8,855,465	£8,883,983	£7,653,915
Other British possessions	766,947	607,971	577,707	481,553
Australian colonies	11,127,178	11,603,170	9,201,193	8,927,677
Belgium	188,277	1,039,333	227,363	951,570
France	120,321	480,599	77,436	806,693
Germany	773,016	437,522	581,400	1,027,456
Italy	30,243	21,786	27,353	20,898
Norway	77,669	.....	22,007	.....
Hawaiian Islands	171	22,334	2,580	20,675
Sweden	18,820	.....	11,061	.....
United States	1,277,032	2,313,671	823,522	1,529,980
All other countries	423,493	562,169	340,919	571,830
Total	25,383,397	25,944,020	20,776,526	21,972,247

In 1892 there was a balance of trade in favor of the United Kingdom of £1,724,765 and a balance against the United States of £1,036,639.

There was a balance of trade in favor of the United Kingdom in 1892 of £1,230,068, and a balance against the United States of £706,458. Nor is this all; many of the Australian products, such as wool, tin, etc., were sent to England to be reshipped to the United States, or were afterwards purchased in English markets for the United States, thereby increasing the balance of trade in favor of Great Britain and against the United States.

CAUSES OF RESTRICTED TRADE WITH THE UNITED STATES.

One of the reasons why our trade with the Australian colonies is not more extensive and prosperous is that their principal product—wool—finds but a limited market in the United States, as the American manufacturers, on account of the duties imposed—11 cents per pound on greasy and 22 cents per pound on scoured—take only such quantities as they absolutely require and for which they can find no substitute. The New South Wales clip of 1891–'92 amounted to 323,052,014 pounds, of which only 1,413,774 pounds were shipped direct to American ports. Though the official figures for 1892–'93 are not yet obtainable, the Australian Star of May 6, 1893, gives the total clip of New South Wales for that season at 880,233 bales, only 3,718 bales of which were exported to San Francisco, the sole American port mentioned in the list.

But the main reason why closer trade relations do not exist is that the mail and steam service of and between the two countries is so exceedingly limited and unsatisfactory. All the different steamship lines plying between Europe, America, and Australia make Sydney their terminus. The other Australian ports are simply way ports and ports of call; and, though steamships leave here every week, and even oftener, for Europe, only one steamer clears for America, and that one only every four weeks.

The Peninsular and Oriental Steam Navigation Company dispatches a steamer to London every other Monday—twenty-six trips each year—and receives a subsidy of £85,000 per annum.

The Oriental Steam Navigation Company alternates with the above company—twenty-six trips each year to London—subsidized in the sum of £85,000.

The Oceanic Steamship Company, of San Francisco, operates its vessels in conjunction with the Union Steamship Company, of New Zealand, the former running two steamers and the latter one. These ships leave every four weeks for San Francisco and make, therefore, thirteen trips per year. The colony of New South Wales pays a subsidy of £4,000, and the United Kingdom, New Zealand, and the other Australasian colonies using the service pay at poundage rates for the conveyance of their mails. How much these companies receive from the United States for carrying the mails, or if compensation in the shape of a subsidy is made them, I have not been able to ascertain.*

The Messageries Maritimes has a four-weekly service between this port and Marseilles and enjoys a subsidy from the French Government of 3,750,000 francs† per annum, which, however, includes a line to New Caledonia.

The Norddeutscher Lloyd dispatches a steamer every four weeks to Bremen, and is subsidized by the German Government for this service with 1,600,000 marks, and the branch line to Samoa receives an additional sum of 400,000 marks.‡

The Deutsch Australische Dampfschiffs Gesellschaft runs a steamer every three weeks to Hamburg. This line is not subsidized either by its home Government or by the colonies, but receives pay for carrying the mails in accordance with certain rates agreed upon. The same is the case with the Gibb line of steamers, White Star line, Blue Anchor line, Tyser line, Gulf line, and Port line, which are all freight lines and make monthly trips between this port and Europe.

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*NOTE BY THE DEPARTMENT.—The Oceanic Steamship Company received from our Post-Office Department for services rendered in conveying the United States mail from San Francisco to the Australasian colonies during the fiscal year 1892 the sum of $55,000. This sum includes the amount earned by the vessels of the Union Steamship Company, of New Zealand, which participated in the service in question. (See Report of Superintendent of Foreign Mails, 1892, p. 6.)

The act of March 3, 1891 (Supplement to Revised Statutes at p. 907), provides that no steamship employed and paid for carrying the United States mail shall receive any other bounty or subsidy from the Treasury of the United States.

†1 franc=19.3 cents.

‡1 mark=23.8 cents.

The Eastern and Australian Steamship Company and China Navigation Company ply their vessels between Sydney and China and Japan; therefore, they need not be considered in this connection.

From information received from the deputy postmaster-general of this colony, I learn that one hundred and sixty-seven steamships leave this port every year for Europe, not to mention an occasional ocean tramp, while only thirteen clear for the United States. The ships of the American line are much inferior in size, speed, and equipment to the first-class passenger vessels of the other countries. The average duration of the voyage from San Francisco to Sydney is now twenty-three days. With vessels of adequate size, power, and steaming capacity, there are no reasons, so I have been informed by competent authorities, why it should not be made in eighteen days.

I am decidedly of the opinion that, in order to build up an extensive and valuable trade with the colonies of Australasia—a trade that by all the laws of commerce, convenience, and geographical position belongs to the United States—swifter and more frequent steam communication must be established, say by vessels that leave here every two weeks and make the trip in eighteen days. Such a line would not be a paying investment at first without assistance from the Government; but, as connections are established, trade developed, and the tourist and business travel diverted to it, it would, I am convinced, yield satisfactory returns and become the most important factor in the establishment of relations of the utmost value to our manufacturers and producers.

IMPORTANCE OF THE AUSTRALASIAN TRADE.

The importance, from a commercial point of view, of the colonies of Australasia, having a foreign trade—imports and exports—amounting in the year 1890 (the latest period for which complete official figures are obtainable) to £75,223,727, and a population on the 31st of December, 1892, of 3,941,856, seems to be well understood by the Government and people of Canada and the Canadian Pacific Railroad Company; for in March last the assistant general freight and passenger agent of the company visited these colonies for the purpose of establishing agencies and connections, and in an interview with a reporter explained the objects and purposes of his visit and the plans and intentions of his company. Though this report is no doubt highly colored, after the fashion of newspaper men, the fact remains that the Canadian Pacific Railroad Company sent out one of its principal officers to look the field over. But the Canadian Government did not wait for the railroad company to perfect it plans, for on April 8 the following cablegram was published in the newspapers of this city:

LONDON, *April* 7.

The Canadian Government has provisionally arranged with Messrs. Huddart, Parker & Co. (limited) of Sydney and Melbourne, for the establishment of a monthly service of steamers for one year between Canada and Australia, calling at Hawaii en route. The subsidy is to be £25,000.

From this it will be seen that arrangements had been made for a monthly service between Canada and Australia, and that the subsidy to be paid by the Canadian Government was £25,000 per annum, with the expectation that the colonies would jointly contribute an additional sum of £20,000.

In this morning's papers the following cable was published:

LONDON, *May 10.*

Mr. James Huddart, the Australian shipowner, has applied to the British admiralty, through Sir Charles Tupper, high commissioner for Canada, for a subvention of his proposed Australian-Canadian line of steamers.

On April 5 Mr. James Huddart addressed a letter to Sir George R. Dibbs, the premier of the colony of New South Wales, in which he invites his coöperation and assistance and that of his government in the establishment of the proposed line. No conclusion has as yet been arrived at by the government of this colony or that of any of the others; but, feeling no doubt convinced that favorable action will be had, Mr. Huddart has put on the steamship *Miawera* to sail from this port for Vancouver, in British Columbia, on the 18th of May, to be followed by the *Warrimoo* on the 19th of June.*

WM. KAPUS,
Consul.

SYDNEY, N. S. W., *May 10, 1893.*

[Inclosure No. 1.]

THE CANADIAN-PACIFIC RAILWAY COMPANY—PROPOSED TRADE WITH AUSTRALASIA.

Mr. D. E. Brown, the assistant general freight and passenger agent of the great Canadian Pacific Railway Company, a company which has made for itself a splendid name in the commercial annals of the present century by its successful completion of the stupendous undertaking of spanning British North America, from Halifax on the east to Vancouver on the west, with a trunk line and feeders covering a distance of over 5,000 miles, is now in Sydney, having arrived by the *Wairarapa* from New Zealand on Wednesday evening. In the course of an interview with a press representative at Auckland, Mr. Brown said that he had come to give the Australasian public a little more information than they had at present concerning Canada and the Canadian route to London. Little or nothing was known in Australia and New Zealand of a reliable character about Canada, and, the Dominion being a sister colony, he would like to see closer trade relations in the near future with Australasia. One of the

*NOTE BY THE DEPARTMENT.—The following extract from "Commercial Relations, Canada" (No. 1, p. XII), is of interest in this connection:

"By an act of 1889 a subsidy of £25,000 was granted for the establishment of a fortnightly steamship service between Canada and Australia or a proportional amount for a monthly service. By an act passed in 1893 this was amended so as to authorize the payment of a subsidy for a service not less frequent than monthly. An arrangement has recently been entered into for the immediate establishment of a service between Sydney and Vancouver, British Columbia, calling at Honolulu, in the Sandwich Islands, and Victoria, British Columbia, and making connection as far as practicable at Sydney with all local lines to ports in Australia and New Zealand. Two steamers—the *Miawera* and *Warrimoo*—are to be used, each of a gross tonnage of over 3,300 tons, and capable of an average speed of not less than 15½ knots an hour, with saloon and cabin accommodation for at least one hundred and thirty passengers, and with every comfort and convenience of best Atlantic liners of their size; they being specially adapted for tropical voyages. The service will be monthly, and the trip between Sydney and Vancouver is not to exceed twenty-one days, including one day's detention at Honolulu."

purposes of his visit was to open offices of the company and appoint agents in the different centers, so that the public might be supplied with reliable information regarding the operations of his company. He would appoint agents in the meantime at Auckland, Sydney, Melbourne, Adelaide, and Brisbane.

Mr. Brown expects that within the next twelve months the company will have a line of Canadian ships running across the Atlantic that will make the voyage from Liverpool to Quebec or Halifax in four days. The voyage to New York now takes five days. In winter the service will run to Halifax, as the St. Lawrence is then frozen; but in summer the steamer will go as far as Quebec. From the above it will be seen that a person leaving London at noon on a Wednesday could reach Quebec at noon the following Monday and Halifax at least ten hours earlier, whereas at present he would not reach New York until the following Wednesday. The company has succeeded in carrying the mails from Yokohama to London inside twenty-one days. The run across the continent from Vancouver to New York is done in three days and a half.

After the Atlantic line has been established the company intends to turn its attention to the colonies of Australasia, and will endeavor to make such arrangements with them as will warrant the putting on of a fast mail service between Vancouver and Australasia. The ships will be of not less than 6,000 tons, and will travel at the rate of 18 knots an hour. The run from Vancouver to Sydney could thus be made in sixteen days, and no difficulty whatever would be found in delivering the Australasian mails in London in twenty-six days. It has been found that the great majority of Australians going home to England are anxious to see China and Japan, and the company has therefore inaugurated a trip round the world, whereby passengers can join the Empress line of steamers at Hongkong, which, on the way to Vancouver, touch at Shanghai and pass through the inland sea of Japan. After crossing the American continent the passenger has his choice as to the Atlantic liners to England. From England he may return by the Peninsular and Oriental service to the original point of starting. The round trip from the colonies, including an additional £32 to reach Hongkong, would cost £157.

Another object of Mr. Brown's visit is to correct the erroneous impression that interested parties have circulated to the effect that Canada is a snow-bound country, and that the Canadian route is snow-bound also. This is, he says, altogether untrue, for the Canadian Pacific is the only line that crosses America which for four years has not had a transcontinental train twenty-four hours late. The service and train equipment is one of the finest in the world, and the scenic attractions of the Canadian route are not to be surpassed. The Australians who have passed through Canada will vouch for this, and it was the solicitations of these Australians which caused the company to send a representative for the purpose of establishing Australasian agencies.

In connection with the World's Fair at Chicago the company have made special concessions, the charge from Chinese and Japan ports for the round trip being only at the rate of a fare and a half—that is, about £48. The charge via the Canadian Pacific to Chicago will be £14, or a single fare for the round trip. However, as most Australians visiting the World's Fair will do so on their way to England, the globe-circling ticket will doubtless be the most popular.

On being asked whether it was not a fact that there was a considerable party in Canada desirous of seeing the Dominion amalgamated with the United States, Mr. Brown replied: "As a Canadian born and bred I can state that such is not the case. Not 1 per cent of the population either desire independence or annexation. Why should they? What is to be gained by it? They govern themselves; they make their own laws, and have the protection of the British nation at the cost of the salary of the governor-general. The Canadian Pacific Railway," he continued, "would prove of the greatest advantage to Great Britain for the transportation of troops to the East." The company even now carried thousands of seamen for the periodical remanning of the British Pacific fleet.

As to the State ownership of railways, Mr. Brown said that there was only one line, and that a comparatively small one, run by the Government in Canada. It was carried on at an enormous annual loss, and the company was even now negotiating, with some hope of success, in the direction of taking it over.

[Inclosure No. 2.]

CANADA AND AUSTRALIA—PROPOSED MAIL SERVICE.

With reference to the cable in Saturday's issue of the Herald, stating that the Canadian Government has provisionally arranged with Messrs. Huddart, Parker & Co. for the establishment of a monthly service of steamers for one year between Canada and Australia, it would seem that for some time past the New South Wales government has had the matter under its consideration. Inquiries are now being made with regard to it, but no definite decision has yet been arrived at. The Canadian Government has offered a subsidy of £25,000, but expects that the Australian colonies will between them contribute at least another £20,000. As our minister understands it, the object of Canada is to induce the colonies interested to establish a separate mail service with them. Certain overtures have been made by Mr. James Huddart, of Huddart, Parker & Co., to the New South Wales government, and the matter is viewed with favor. A good deal must necessarily depend, however, upon the action taken by the other colonies. These have, it is understood, been communicated with; but so far no expressions of opinion have been given by them. It is recognized that the proposed route would serve Queensland better than any other service, and it will also be of great advantage to New South Wales. It would be a monthly service at first, and it would depend upon the amount of support given to it whether it was afterwards made a fortnightly one. Mr. Kidd, the postmaster-general, thinks that a very fast service will be obtained for very little money. Especially will it be a fast service when compared with the slow service via San Francisco. Mr. Kidd also believes that in time it would become a very favorable passenger route. Passengers would pass through British territory, and would be subject to less inconvenience than by the American service; and when it is borne in mind what the latter service costs, it is thought that the subsidy of £20,000 asked for, and to be divided amongst the Australian colonies, is small.

The following is a copy of the letter to the premier in which Mr. James Huddart submitted his proposals, and it fully explains the position and expectations upon which the proposals are based. Similar letters have been forwarded to the premiers of the other colonies.

"SYDNEY, *April 5, 1893.*

"SIR: At the recent intercolonial postal conference held in Brisbane, at which the seven colonies of Australasia were represented, a resolution affirming the desirability of establishing a postal service with Great Britain, via Canada, was, on the motion of the Hon. J. G. Ward, postmaster-general of New Zealand, and with the warmly expressed support of the postmasters-general of Queensland, New South Wales, and Victoria, unanimously agreed to. I have the honor to inform you that the opportunity to establish such a service now exists, and to respectfully ask you to consider a definite proposal, which, if it be accepted, I am prepared to translate into actual fact immediately. In January last I forwarded to Sir John Thompson, premier of the Dominion of Canada, a letter in which I offered to place a service of swift steamers for postal and commercial purposes between Sydney and Vancouver, via Honolulu. It seemed to me that it would be useless to approach the governments of Australasia until the coöperation of Canada was assured. I very much regret that my negotiations with the Dominion Government had not at that time been carried so far as to enable me to submit a practicable scheme to the Brisbane conference. Canada's clear promise of assistance reached me just too late to be utilized in that way. In reply to the communication already alluded to, Sir John Thompson cabled that his Government had statutory authority for a subsidy of

£25,000 for a fortnightly service or a proportionate sum for a monthly one. Further negotiations followed, and I am now in receipt of a message from the Hon. M'Kenzie Bowell, acting premier (in the absence of Sir John Thompson, who is visiting Europe), to the effect that the Dominion Government guaranty a like amount with Australia up to £20,000 for a monthly service. That offer defines the position so far as Canada is concerned, and Canada may yet increase the offer. The proposal I have to make is that of a four-weekly 14-knot service between Sydney and Vancouver, via Honolulu, for a yearly subsidy of £50,000. One-half of this amount may be taken as already guarantied by Canada, and I hope to receive some assistance from the British Government, and am prepared to promptly initiate the service if the Australian governments will guaranty the sum of £20,000 annually for five years. Never before in the history of our oversea postal service has Australia had the opportunity of establishing a new and swift service, with the collateral advantage of opening up additional markets for colonial produce, for a maximum responsibility of £20,000, which amount would be at once materially lessened by the postages. Recently New South Wales and New Zealand made themselves responsible for a subsidy of £37,000 to assure the continuance of the San Francisco service, and, although this sum has since been considerably reduced, it should be borne in mind that in the earlier history of that service it was largely exceeded.

"I am prepared to initiate the proposed service with the sister ships *Miawera* and *Warrimoo*, which are now engaged in the trade between Australia and New Zealand. Each ship is 357 feet long by 42 feet 3 inches beam, with a molded depth of 28 feet, giving a registered tonnage of about 3,400, or about 5,000 tons cubic capacity. The indicated horse power of each on trial was 4,500. Both were built last year by Messrs. Swan & Hunter, Newcastle-on-Tyne, and engined by the Wallsend Slipway Company, and both—as might be expected from the work of these eminent firms—have given every satisfaction. On their trial trips they attained a speed of 17 knots, and they have been noted and plans taken by the admiralty for subvention in case of war. A 14-knot speed would, allowing for a short detention at Honolulu, convey mails from Sydney to Vancouver in twenty-one days. A 15-knot speed is practicable by these steamships, but it would be more expensive. A service of twenty-one days to Vancouver is shorter by several days than the existing route to San Francisco. The *Miawera* and *Warrimoo* are fitted with the latest triple-expansion machinery, refrigerators for ship's use, duplicate electric lighting, special ventilation for tropical voyaging, and with other comforts for passengers which are to be found in Atlantic liners. In the trade in which they are engaged they have already won for themselves a very high reputation. I think I am justified in describing them as the finest vessels in the Australasian mercantile navy.

"Presuming that New Zealand will continue the present service to San Francisco, the service to Vancouver would give a fortnightly post to North America. Australian letters via Vancouver would be delivered in the United States more quickly than they are now via San Francisco. Trains are dispatched from Vancouver daily for California, as well as for the eastern seaboard of the continent. For European mail purposes the new route is a very promising one. With the assistance of the Canadian Pacific Railway, the finest long-distance railway in the world, and of the ships now running from Canadian or United States ports, mails could easily be landed in England in the time now averaged by the Peninsular and Oriental and Orient mails from Sydney to London, namely, thirty-four days. This period allows thirteen days between Vancouver and England. But the Canadian people are now agitating for a swifter Atlantic service, and it is confidently anticipated that in the very near future—within eighteen months—the mail time will be reduced between England and Vancouver to ten days. It would then be a mere question of money, that is to say, of the consumption of coal necessary to a 15 or 16 knot service between Sydney and Vancouver, to land Australian mails by this route in England under thirty days. What this means is that it is within the power of the colonies to establish an alternative postal service which, both now and in the future, will be the equal in swiftness and more than the equal in safety of the service via the Suez Canal. The value of such an alternative service to the governments and peoples concerned

lies in the fact that it is unexposed to the risks which would threaten the Suez Canal in the event of a European or Asiatic war.

"In such an event it would be easy to develop a four-weekly Canadian service into a weekly one. All the facilities and arrangements between Vancouver and England would be in readiness. The employment of more ships between Sydney and Vancouver is all that would have to be done. A postal route which, when it left the Atlantic or Pacific oceans, traversed none but British territory has an obvious value over one, not otherwise superior, which is perpetually menaced by the international feuds of Europe and Asia. And in this connection it may be briefly noted that the Canadian Pacific Railway, with swift steamship services in the Atlantic and Pacific oceans, would offer invaluable means of transporting troops or war material, on occasions of national emergency, from the mother country to Australia.

"To passengers the Canadian route should prove specially attractive. It minimizes both the length of the ocean voyage and the terrors of the tropics. In about the same time that a person embarking at Sydney on one of the mail steamers on the canal route reaches Colombo a person embarking at the same port would reach Vancouver. I believe that I am entitled to say that the consensus of opinion among those who have experience of both routes is that the journey via America is much the pleasanter and more instructive. The glimpse of tropical life at Honolulu is not inferior to that at Colombo, and most travelers would be glad to leave any ship at the end of three weeks, though between Sydney and Vancouver smooth water and a pleasant breeze can generally be counted upon. The short run through the tropics has no Red Sea equivalent; deaths from heat apoplexy are virtually unknown on the Pacific. From Vancouver the Australian traveler may proceed either direct to the Atlantic liner, or may halt in Canada, or turn aside into the United States. He will find the scenery on the Canadian Pacific line incomparably magnificent, and when it pleases him to enter the United States the Canadian Pacific Company will assist him in every reasonable way. The special agent of this great corporation is now in Australia—I refer to Mr. D. E. Brown—with a view to making known the facilities and advantages which are offered to travelers. Of the educational value to colonists of looking upon what has been done in Canada and the United States to settle waste lands, develop mineral and other natural resources, and build up civilization in new communities, all made clear to the onlooker through the medium of a common language, I need not speak.

"But it is as much more than a new postal and passenger route that the Canadian service should commend itself. It would assist in the extension and consolidation of Australia's commercial relations with the United States by providing increased frequency and rapidity of communication, and it would in all reasonable probability open up new markets for our produce and create many and important additional trade relations. It would tend towards and aim at bringing Australia and Canada together on the basis of mutually profitable business. Two English-speaking peoples, occupying countries very differently dowered and conditioned by nature, but within three weeks' distance of each other, would by the act of establishing this service be invited to set up commercial intercourse. At the Brisbane conference, in the short discussion that accompanied the passing of Mr. Ward's resolution, this aspect of the subject was not overlooked. According to the Statistical Year Book of Canada, an official publication, in the year 1891 the Dominion trade with Australasia only amounted to £162,000—namely, imports £44,000 and exports £118,000. Perhaps this is somewhat misleading. It is not unlikely that our trade with the United States covers some transactions with Canada. Be this as it may, however, our trade with Canada is still undeveloped. We shall not know what are its possible dimensions till we try to develop it.

"I would respectfully submit that, as Canada is an importer and consumer of vast quantities of commodities of which we are large producers, we are now neglecting what may prove to be considerable and lucrative markets. Take sugar. Canada spends about £1,000,000 annually in the purchase of sugar, besides about £200,000 on molasses. Much of this is crude, and in that form is free of duty. A refinery at Vancouver is capable of

turning out 350 barrels daily, and gets its material chiefly from the Spanish possessions in the Pacific. Already Queensland has to meet the competition of all the world at London. Could it not meet the limited competition of the Pacific at Vancouver? Wool is another Canadian import. In 1891 about £280,000 were spent in the purchase of this commodity. I have Mr. Brown's authority for saying that the Canadian Pacific Company is prepared to quote a rate for wool which would permit it to be carried from Vancouver to the factories in eastern Canada. If this be so, then, in the event of the United States duties on wool being abolished, it might be carried on the Canadian line to the Eastern States. Of unmanufactured tobacco Canada is a buyer to the extent of over £300,000 annually. Tobacco is easily grown in many parts of Australia; but the home market is glutted with it, and hitherto no export trade has been developed. Of hides and skins Canada purchases largely, the figures reaching £400,000 in 1891. In the same year Canada bought £80,000 worth of nonsparkling wines and about half that quantity of sparkling wines. Over £50,000 is spent annually on tin in blocks, pigs, and bars. The annual bill for imported provisions, including meat and dairy products, is about a quarter of a million sterling. The long and severe Canadian winter, coupled with the reversal of the seasons, should make a market for our perishable produce, for the carriage of which, should the prospects of the trade invite it, I am prepared to add cold chambers to the ships. For fruits and nuts the Canadian market amounts to about £500,000 annually. We could supply subtropical fruits and probably compete successfully with California, which would be handicapped by the high prices consequent upon an enormous and protected home market; and in any event we should have the advantage of the reversal of the seasons. Reverting for a moment to meat, it is not unlikely that a moderate market for Australian frozen mutton might be opened up, especially in western Canada, where mutton retails at double the prices of this country. It is a curious fact that, though there are about 4,000,000 cattle in Canada, there are less than half that number of sheep. 'It may be doubted,' says the Imperial Institute Year Book, 1892, 'whether sheep-breeding on a large scale will ever succeed in Canada. In the severe winters, at all events, they have to be housed and fed; and this fact alone handicaps Canada in competition with countries possessing a milder climate.'

"Here, then, in the Canadian imports of sugar, wool, tobacco, hides, wines, tin, molasses, provisions, and fruit there seems to be a tempting opening for Australian enterprise. On the other hand, Canada can send us lumber, fish, agricultural machinery, and many of the goods we now get almost exclusively from the United States. With cold storage in the ships we could import at cheap rates fresh salmon from British Columbia, where the supply now far exceeds the demand. It is a significant circumstance that Canada is convinced that she can trade profitably with us, and cordially invites us to try the experiment. We should be dealing not only with an energetic, industrious, thrifty, and shrewd British population, numbering over 5,800,000, but with a population already friendly and commercially disposed. Possibly, in the future, a reciprocal tariff might be arranged between the two countries.

"I am not unaware, of course, that the Australian governments are harassed by the imperative necessity for general retrenchment in public expenditure; but I venture respectfully to urge that one source of relief from the prevailing depression will be found in the discovery and development of new and promising markets for agricultural and pastoral produce. The subsidy now asked from Australia for a service of rapid steamers to run between Sydney and Vancouver, namely, £20,000, which would be reduced by the amount of postages, is not large in comparison with the postal, commercial, and other benefits which would thereby be secured. I have the honor to add that, should this offer be accepted, it would give me pleasure to extend every courtesy and facility to officers of the governments concerned who might be intrusted with the responsibility of reporting on Canadian markets, and to aid enterprise to any reasonable extent by conveying experimental shipments at special rates. I may also mention that the total proposed subsidy—£50,000 from all sources—will not nearly cover the total expenditure which the service will involve. I shall have to shoulder a considerable financial risk.

"In conclusion, I respectfully ask that you and your colleagues will give this question your early consideration. I am anxious, in the event of the proposal being viewed with favor, to take advantage of the publicity which it would gain if it could be got into actual operation during the currency of the Chicago Exhibition."

Our Melbourne correspondent wired last night, stating that he had a conversation with Mr. James Huddart respecting the foregoing statement. Our correspondent was informed that the proposed new mail service will be worked by a company styled the Canadian Pacific Steam Line, of which Mr. Huddart is the managing owner, and that it will be altogether outside and distinct from the firm of Huddart, Parker & Co. (limited). The cablegram published on Saturday showed that the Canadian Government had finally accepted the overtures made for a subsidy of £25,000 per annum, and it now only remains for the Australian governments to guaranty a like amount, and the new service could be immediately inaugurated. The *Miawera* is now in dock in Sydney undergoing an overhaul, and the *Warrimoo* upon arrival will also be docked and made ready for work on the new line.

Mr. Huddart is very hopeful in the matter. He is gratified with the way in which the Canadian Government has met him, and also with the interest shown in the proposal by the premier of New South Wales. Sir George Dibbs has taken up the matter in a federal spirit, and had refrained from committing his government to anything until he had consulted with the other Australian governments. The prospects of advantage to Australia through the development of intercourse with Canada are so great that Mr. Huddart feels satisfied the negotiation will be carried to a successful issue. As an inducement to the Queensland government to join in, the promoters of the new undertaking are prepared to make Brisbane a port of call, and claim that this would place Brisbane on an equality with Adelaide in the matter of speedy communication with London. It is not proposed to call at New Zealand ports.

One reason why Mr. Huddart is anxious that there should not be any unnecessary delay in the completion of negotiations is that the Chicago traffic may be secured at the outset. There is every reason to believe a large number of intending visitors to the Chicago Exhibition will gladly avail themselves of the facilities to travel via Canada, and it is hoped that a large number of visitors from all parts of the world who may visit the great exposition will be induced, by reason of the increased facilities offered, to extend their travels to Australia.

TRANSFER OF LAND IN AUSTRALIA.

The fame of the so-called "Torrens land act," like that establishing the Australian ballot, has extended around the world. It introduced a new system for the determination and registration of titles and the rectification and establishment of boundaries. In the early settlement of the Australian colonies the land seemed so illimitable and so little labor was required for its occupation that it possessed but small value. No one was particular as to metes and bounds, and titles to immense tracts passed, not at so much per acre or square mile, but at so much per head for the stock pastured thereon. Grants of land with very indefinite descriptions were made both by the Crown in England and by the Crown's representatives in the colonies "to promote settlement," "for improvement," "for services," as "additional grants," "reserves for purchase," "lease with right of purchase," "as compensation," "by purchase," "by occupation," etc.—all being in advance of official survey.

As time passed the processes under the old laws for transferring, dividing, devising, or encumbering real property were found to be vexatious, cumbrous, expensive, and oppressive, and even after tedious and costly litigation titles remained clouded. These were the conditions existing at the time of the adoption of an act by the parliament of the colony of South Australia in 1856, which was popularly known as the "Torrens act," Mr. Torrens, a layman, having been chiefly instrumental in securing the adoption of the system which it embodied. The system is capable of adaptation elsewhere, giving certainty to the title of estates in land, facilitating the proof thereof, and rendering dealings with land simpler and less expensive.

Two objects are aimed at: first, certainty and facility of proof of title; second, simplicity in dealings with land the title to which is thus proved. The principal means by which the first result is to be secured is the issue of a document, called a certificate of title, which authoritatively declares that a specified person is the proprietor of a specified estate in a specified piece of land. No such document was formerly known to the law. Previously evidence of title consisted of a series of documents showing all the changes of ownership which had taken place since the issue of the Crown grant. Hence, if there had been many such changes of ownership, on every occasion when the owner's title was to be proved a process conducted at great cost and requiring great care had to be gone through with, and the necessary cost and care increased with every link added to the chain. No investigation being conclusive, no number of investigations could give authenticity to the title.

Under the new law one investigation of title properly conducted by a public officer is made sufficient for all purposes. It enables an owner, without action or suit, but upon notice to persons interested in the land which is the subject of the application, to apply to be registered as proprietor of an estate on submitting his title to the commissioner. Whether the title submitted be defective or not, there is a manifest advantage in substituting for a mass of inconclusive evidence, from which a title may be slowly worked out, the legal conclusion to which the documents have led, expressed in short and distinct language and with the authority of an act of parliament. Thenceforth the proprietor's evidence of title for all purposes consists of a simple certificate, given in exchange for the deeds, which proves itself and proves the title conclusively, subject to a few specified grounds of objection, which are easily decided upon if raised.

The transfer-of-land statute compels an essential uniformity in all instruments of the same class and prescribes short forms by which all dealings with land are to be effected, each form having its appropriate implied covenants, which are, however, subject to addition, modification, or exclusion by express provision. The signature to the instrument must be formally attested, and registration is essential to give it any operation under the act. The proprietor directs the transfer, but the registrar makes it. The old certificate of title is produced and canceled. Alienation is effected by a

public officer, who acts only on directions given in a prescribed form and authenticated by the signature of a public officer or solicitor. As every proprietor of land is entitled to a certificate of title, every change of proprietorship must be brought under the cognizance of the authority having power to issue it. Under the statute the purchaser is relieved from the operation of "constructive notice," and for the purpose of free alienation the act refuses to recognize any distinction between the legal and beneficial ownership. It does not, however, abolish trusts in land or in any manner disturb the system under which trusts are enforced, but it will not constitute a person constructive trustee on the mere ground that he holds the trust property.

A bill to extend this system in Victoria became law (No. 140) on the 18th of June, 1862, cited as the "real property act."

Several acts have since been passed as cases arose requiring legislation which should harmonize transactions in land with the system introduced by the original act or disclosing defects in, or desirable extensions of, the provisions of the act.

The system consists in the establishment of an office in Melbourne, the capital of the colony, which is in reality a land court, for the determination of boundaries and titles, presided over by a commissioner of titles, who is assisted by six examiners of titles. He is a judicial officer and determines what titles shall be accepted and what dealings registered. He may direct errors and omissions in the register book to be corrected. He may summon before him and examine any person interested, and refusal to attend or answer may be punished as contempt of court. The registrar is the principal executive officer. Small fees are payable for the registration of dealings and transmissions, searches, and other office work, the largest not exceeding £1, and these fees are paid into the consolidated revenue. The only ad valorem payment is a duty of half a penny per £1 (about one-fifth of 1 per cent) upon bringing land under the act and on the registration of a title to a freehold estate acquired on a transmission. These ad valorem payments, with any additional charge which may be made on account of defective evidence of title, or some slight defect in the title itself, form the assurance fund applicable to compensate persons for any injuries sustained by the operation of the act.

No one is compelled to bring his land under the operation of the act. Of the lands of the colony which have been alienated from the Crown, only about one-fifth have been so dealt with. All Crown lands which were unalienated on the 3d day of October, 1862, and such alienated lands as are voluntarily brought under the act are alone affected by the statute, but land once registered can not afterwards be withdrawn.

A circular letter of advice concerning applications under the transfer-of-land statute has been prepared by the commissioner of titles with a view to enable persons to avail themselves of the advantages conferred by such statute without obtaining legal advice, but in practice the parties to a trans-

action almost invariably employ a solicitor. The fees for such services are not fixed by law, and when no terms are made exorbitant fees are often exacted. Usually they amount to 3 guineas to each solicitor, and, in addition, custom grants the vendor's solicitor an additional 2 guineas for exhibition of title.

Very great assistance in the preparation of this report has been obtained from "A'Beckett's Transfer of Land Statute" and through the kindness and courtesy of Mr. E. T. de Verden, Q. C., commissioner and registrar of titles of Victoria.

GEO. H. WALLACE,
*Consul-General.**

MELBOURNE, *May 4, 1893.*

DOGS AS DRAFT ANIMALS IN BELGIUM.

The first distinctive institution that attracts the attention of a stranger in Belgium is the working dog. From time immemorial this hereditary loafer has been given over to pleasure; but, like certain other of the privileged classes in this revolving world of ours, he has had his day—at least in Belgium. Such amateur service as he has rendered in the past in aiding the shepherd, guarding the household, and rushing with sledges through the frozen regions of the North is too much in accordance with his instincts to be classified as labor; so it is here, for the first time in his history, that the necessity of doing something for which a natural repugnance is felt (and this, I believe, constitutes the essential difference between work and play) has been forced upon him; but, like the old *noblesse*, he accepts the change cheerfully and patiently performs his task. Sentimentalists, taking no thought of the man or even of the woman whose burden he shares, may complain that he is greatly wronged; but sensible people must rejoice that he has at last been set to work and compelled to earn his own living.

Liege is a city of large wealth and great industrial activity, possessing the largest manufactory of machines and machinery in the world and employing as many horses as any other town of its size in Europe, and yet for every horse at least two dogs are to be seen in harness on its streets. They are to be met at all hours of the day, but in the early morning the boulevards are literally alive with them. Traffickers (mostly women) with gaily painted carts drawn by well-fed dogs are then seen striving to be first in the market place. A pretty bare-headed Wolloon peasant girl moving briskly at the side of a flower cart drawn by a stalwart mastiff is a pleasing vision to the early riser. But not only the gardener, but also the butcher, the baker, the grocer, the porter, the expressman—common carriers of all kinds, indeed—engage his services. His step is so much quicker than that of the horse that he will in an hour cover twice the distance and carry with him a greater burden in proportion to his size.

* The consul-general transmitted a printed copy of the transfer-of-land statute of Victoria, which has been filed in the Department.

Six hundred pounds is the usual draft of an ordinary dog, though a mastiff is often taxed with as much again. They are driven single, double, and sometimes three and four abreast, and are hitched, indifferently, in front of, beneath, or behind the cart or wagon. When the vehicle is loaded, the driver walks, directing its course and in emergencies laying his shoulder to the wheel; but when the load has been discharged, he often mounts the box and rushes like Jehu through the streets.

It will not surprise those who know that the steam engine was familiar to the Romans as a toy to be told that the hollow revolving cylinder used in squirrel cages has been turned to account here in the movement of light machinery by enlarging its scale and substituting "Fido" for "Bunny." I have also seen him treading an endless belt in the service of a wood-sawyer. A gentleman of Liege, retaining his fondness for lounging upon the boulevards after losing the use of his legs, had a perambulator so constructed that a Danish hound which had been his companion for years could be hitched and almost concealed between the wheels and now appears as regularly in his old haunts as any of his friends. The hound is not only as happy as when he loitered at his master's heels, but is manifestly proud of the service he renders him.

Let it not be forgotten that the Belgians are among the most refined and cultivated people on earth, and that this new use of the dog is one of the latest and most approved developments of their civilization. Thirty years ago, I have no doubt, a dog in harness would have excited as much remark in this city as he would to-day in Louisville or Memphis, though he is now as well recognized an institution of the people as the mule is in either of those cities.

Rigorous discipline and the long habit of wearing muzzles seems to have subdued the belligerent instincts of these dogs, for they now meet as strangers at the crossings without those supercilious inspections and hostile demonstrations which characterize both men and dogs till they have received the last touches of civilization. There remains, however, a rudimentary love of the chase, of which the artful driver often avails himself to quicken their speed; though, as Lord Chesterfield in his excessive refinement is said to have laughed without cachinnation, they have learned to hunt without barking. But a more interesting incident of their labor is the complete extinction of the sheep-killing propensity. Gentlemen bred in the country assure me that this offense against pastoral morality is no longer known in Belgium—a reformation which would in itself justify the harnessing of all the dogs in America.

The expense of feeding them where a number are kept or when placed, like horses, at livery is from 5 to 6 cents per day, horseflesh and black bread forming the staple of their food; though here, as elsewhere, the maintenance of one or two in a family is practically without cost. The expense of shoeing, no small item to the keeper of horses, is also saved.

All the experiments of breeding which have from time to time been tried *for the improvement of* horses are now being made to produce a dog

of special fitness for harness. Newfoundlands and rough-coated St. Bernards are ruled out on account of their hair. The mastiff has been found too long in the back and legs, and it is thought a desideratum to graft the splendid chest and breathing capacity of the bulldog upon this stalwart stock. Markets are established, where they are bought and sold like their equine colaborers at Tattersall's, and it is no unusual thing for a compactly built and well-broken dog to sell for $20 or $25.

It is the fashion in America to bewail the loss of power at Niagara, though no thought is taken of that equal force which is running to waste at the very heels of the people. Since the days of Caligula horses have fed upon golden oats, and yet an energy which is free, always at hand, and aching to be employed is still everywhere ignored. Without having the census at hand, I assume that there is a general average of one dog to two electors in the United States, giving us, in round numbers, a canine population of 7,000,000. Estimating the strength of a dog at 500 pounds—and it is a low estimate—we have an idle force in America of 3,500,000,000 pounds, or a power which, like faith, if once exercised could remove mountains. But it is not in its mass, but in the simple divisions in which we find it, that its value consists.

Though the inanimate forces are doing the heavy work of the world, a multitude of minor tasks to which they can not be profitably applied remain to be performed by man and his domestic assistants. For them the horse possesses superfluous energy, and his maintenance is too expensive for the poor. They are left, therefore, to this clean, cheap, noiseless, and intelligent animal—the dog—who, besides being out of business—for even hunting dogs are following hunting nobles into oblivion—seems to be specially fitted by nature to meet the requirement.

There is not an article of merchandise, from a ton of coal to a loaf of bread, sold in any of our cities which might not be more advantageously delivered by dogs than by horses. The noise made by hucksters, particularly in early morning, in our residence streets is a source of great annoyance to the sick and the nervous, and the substitution of the gentler ways of women and the silent tread of dogs would be hailed by them with joy. Nor would their employment be without a certain municipal advantage, for the litter made by horses is the most fruitful source of dirt in our cities, to say nothing of the great saving in the wear and tear of pavements.

NICHOLAS SMITH,

LIEGE, *June 3, 1893.* *Consul.*

VIENNA LEATHER RESEARCH STATION.

The Government Research Station for Leather Industries, in Vienna, was founded in 1874 and is better known than any other on the Continent.

At its head stands Director Wilhelm Eitner, whose name and reputation are well known throughout all the tanning world. Under Professor Eitner

are two thoroughly qualified assistants—Messrs. Simand and Weiss—both of whom are also well known on account of their valuable contributions to the technology of leather. Besides these, there is a teacher of mechanics, an under-assistant, and an experienced foreman who superintends and assists in the practical tanning carried on by the students.

The institution is supported by the Government, which also provides the premises. These consist, in the first place, of a series of laboratories for various classes of work—technological, microscopical, and analytical—a museum, library, workshops, and an auditorium.

There are two laboratories, containing all necessary apparatus. One of these is for the assistants, in which the various analyses and researches of materials—which are sent from all parts of the world—are carried on; and the other is for the students, having a weighing room, a room for titration and distilling work, a room for extracting, supplied with several extractors, air pumps, and glass-blowing apparatus.

The workshops consist of a room for beam work and a large room containing an electric motor, stuffing and tanning drums, a disintegrator and bark mill, currying tables and beams, a centrifugal dyeing machine, and various other appliances.

The museum contains specimens of all tanning materials, samples of every kind of leather from all the leather-producing countries, a collection of the various kinds of leather which have been tanned at the research station, and a very large collection of faulty and defective products which are constantly being sent to Dr. Eitner from all parts of the world and the elucidation of which forms one of the most important functions of the station practically and educationally. The museum also contains a complete collection of oils, fats, blacks, polishes, and other materials used in leather manufacture and a case with all the instruments used for manual labor in a tannery.

The library and reading room contain scientific literature and all the principal periodicals of the tanning industry.

As the workshops are only fitted out for experimental work, it is impossible to carry on work on a large scale; but an adjoining tannery furnishes the opportunity for any work on a larger scale.

There is considerable accommodation for students, and there are always many waiting for admission; still, it is thought advisable to at present limit the number to twelve, as it is considered of greater importance to give a thorough education to a few than an elementary one to a large number. Before being admitted, students are required to have a knowledge of mathematics, physics, chemistry, mechanics, and a practical knowledge of tanning operations, though manual skill is not insisted upon.

The course consists of the following lectures: Special chemistry for tanneries, comprising lessons in the various methods of scientific observation of the processes of tanning and the methods of analyzing the different materials used in tanning, currying, and dressing leather, as regards their com-

position and value; analytical chemistry; organic chemistry; practical tanning in common and special experimental tanning; technical calculation of leather manufacture; microscopical studies; special mechanics for tanneries.

Director Eitner also undertakes excursions with the students to all the larger tanneries in and around Vienna.

JULIUS GOLDSCHMIDT,
Consul-General.

VIENNA, *May 9, 1893.*

VALUE OF VINEYARDS ON THE RHINE.

The profitableness of the vineyards on the Rhine is shown by the latest official publication respecting the Government vineyards in what was formerly the Duchy of Nassau, now a part of the Prussian district of Wiesbaden.

The total net profit from all the Crown vineyards during the last twenty-four years amounted to $471,114, that is, $19,630 per year in round numbers. These vineyards have an aggregate area of almost 192 acres, which would make the average net profit annually per acre $102.24.

Taking the estimated value of the vineyards to be approximately $3,140 an acre, 3¼ per cent a year would be the average rate of income derived from them. But these vineyards are, as one would naturally infer, among the very best in the country; and their products command commensurately high prices. The expenses connected with the management of them are, it is true, great, and the capital they represent is considerable—some $600,000—but their wines are of the finest and in great demand. These wines bring the highest prices in the market, being sold for the most part directly to the consumer, thus giving the coffers of the Crown the benefit that would otherwise accrue to the wine dealer.

The ordinary wine-grower is not as favorably situated as the Government, and can not, as a rule, make as much out of his property. His wine is much inferior and his ability to set his own prices feeble in comparison. It can not therefore be supposed that he makes as much as 3¼ per cent a year on the average out of his vineyards. The vineyards are not paying, as only from 2 to 3 per cent a year can be made out of them on the average. Many are worked at a loss, as the yield has been inferior either in quality or quantity for some years. The trouble is that they are held at such high valuations that there is no money in them to their owners. The wine dealer is the man who makes the profit.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *May 12, 1893.*

FORESTS IN BELGIUM.

About 16.61 per cent of Belgian territory is devoted to woods and forests. There are 1,209,371 acres of woodland, divided among the provinces as follows:

Province.	Acres.	Province.	Acres.
Antwerp	116,402	Limbourg	97,052
Brabant	69,589	Luxembourg	380,614
West Flanders	27,169	Namur	240,927
East Flanders	27,265	Total	1,209,371
Hainaut	108,469		
Liege	141,884		

The percentage of woods and forests (trees planted) to the total areas of some of the Belgian provinces is as follows: Luxembourg, 36.86 per cent; Namur, about 26.63 per cent; Liege, 18.94 per cent; Antwerp, 17.36 per cent; Limbourg, 16.36 per cent.

Nature of Belgian woods.

Description.	State forests.	Communal forests.	Forests belonging to public establishments.	Private owners.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Timber trees	15,663	31,196	230	64,829
Small timber trees	34,744	187,626	4,450	301,730
Underwood	6,382	112,660	590	114,548
Saplings	12	3,862	12	37,119
Resinous trees	5,747	34,495	6,598	246,879
Total	62,548	369,839	11,880	765,105

Annual receipts from Belgian forests.

Proprietors.	Receipts.			Average receipts per acre.		
	Principal.	Other.	Total.	Principal.	Other.	Total.
State	$148,333	$21,814	$170,147	$2.37	$0.35	$2.72
Communal	776,053	117,525	893,578	2.09	.33	2.42
Public establishments	128,802	6,509	135,311	10.84	.55	11.39
Private owners	2,875,269	104,624	2,979,893	3.76	.12	3.88
Total	3,928,457	250,472	4,178,929	3.25	.20	3.45

The "principal" receipts represent the amounts received from the sale of wood; the "other" receipts represent the amounts received for hunting privileges, pasturage, etc.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *May 27, 1893.*

INCREASE OF IMPORT DUTIES IN COLOMBIA.

On March 3, 1893, Minister Abbott transmitted the following translation of article 5 of law 93 of 1892:

ARTICLE 5. From and after the promulgation of this law—but always in accordance with the provisions of article 205 of the constitution—the following articles shall pay, as an import duty in the custom-houses of the Republic, the following sums:

(1) Brandy, rum, whisky, gin, rosoli, and condensed liquids for the manufacture of said articles, $2 per kilogram.

(2) Wines not included in classes 3 and 4 of the tariff, $1 per kilogram.

[Classes 3 and 4 include the following: Barley malt or other fermented or unfermented materials, liquid or solid, for making beer, and condensed beer; common claret wines in pipes, barrels, and demijohns; beer and other fermented liquors; white wines, sweet and dry, in pipes and barrels.]

(3) Articles named in class 15 of the customs tariff, $2 per kilogram.

[Class 15 complete is as follows: Saffron; cotton in embroidered goods, all kinds, or lace work and imitation thereof, including laces, insertions, and the like, and ready-made clothing not elsewhere mentioned; hemp and flax in all kinds of embroidered stuffs or lace work, and imitation thereof, including lace, insertions, and the like, and ready-made clothing not elsewhere mentioned; wool in light dress goods, all kinds of embroidered and lace work, and imitation thereof, including laces, insertions, and the like, and ready-made clothes; silk in threads, fabrics, etc.; brocades and other stuffs woven with gold, silver, or other metals, also thread, etc., made of same materials, hides and furs in gloves, caps, furs for trimming dresses, etc., pocketbooks, cigar cases, pouches, and similar objects; articles of perfumery and for the toilet, such as essences, soaps, creams, razor strops, tooth and clothes brushes, etc., not mentioned in some other part of the tariff, and excepting Florida, Divine, and Kananga waters, which belong to class 7; any article of gold not mentioned in some other part of the tariff; any form of silver not mentioned in some other part of the tariff; precious stones.]

(4) All druggists' specialties, such as wines, sirups, pills, pomades, elixirs, globules, etc., and all patent medicines shall pay double the amount paid up to this time.

On May 16 the minister supplied the following additional information:

I have to correct the information given in my report of March 3, 1893, relative to the increase of import duties on spirituous liquors and certain other articles.

It seems that after the passage of the law therein inclosed Congress authorized the Government to determine the increase of duties on the said articles at any sum within that named in the said law, and that the Government, by decree No. 453, fixes a monthly increase for ten months of 5 cents per kilogram upon brandy, rum, whisky, gin, rosoli, and condensed liquids for the manufacture of the same.

Brandy, rum, whisky, gin, and rosoli paid under the old tariff 40 cents per kilogram, plus 25 per cent, making in all 50 cents. The present increase of 5 cents per month for ten months will finally result in an increase of 50 cents, which, added to the original 50 cents, will give a tariff of $1 per kilogram, instead of $2 per kilogram, as provided for in the law transmitted with my report of March 3.

The same decree makes a similar increase upon those wines named in the eighth class of the tariff. These wines are "those not comprehended in the third and fourth classes of the tariff." The new total tax will be $1 per kilogram, the same as provided by the law hitherto transmitted.

The decree also makes the same increase of 5 cents per month for ten months upon those articles comprised in the fifteenth class of the tariff. The fifteenth class paid $1.20 per kilogram, plus 25 per cent, making $1.50. Adding 50 cents makes $2 per kilogram, the same as reported in my previous report.

The same decree increases the tax upon druggists' specialties and patent medicines 1 cent per month for ten months, or 10 cents in all. These formerly paid 30 cents per kilogram, plus 25 per cent, making 37½ cents. Adding 10 cents would make the total 47½ cents per kilogram, instead of 80 cents, as before reported.

The following is a translation of the last article of law 109 of 1892, passed December 24, published in the Diario Oficial of January 4, 1893:

"The tax upon certain articles named in the customs tariff authorized by the laws of the present year shall be considered as a maximum tax, subject to such reductions as the Government may determine; but the decree definitively fixing the import duties upon said articles shall be carried into effect in the terms prescribed by article 205 of the constitution, and shall not be revoked nor reformed except by law."

The following is a translation of decree No. 453 of February 10, 1893, published in the Diario Oficial of February 13, 1893:

"ARTICLE 1. The import duties imposed by the customs tariff upon the articles hereafter to be mentioned shall be raised monthly from March 16 to December 16 of this year, when the definitive increase shall be deemed complete, by the following sums per kilogram:

"Brandy, rum, whisky, gin, rosoli, and condensed liquids for their manufacture, wines comprehended in class 8 of the tariff, and articles constituting class 15, 5 cents.

"All druggists' specialties, such as wines, sirups, pills, pomades, elixirs, globules, etc., and all patent medicines, 1 cent.

"ART. 2. The increase of duties provided by the foregoing article shall not be subject to the rebates in the custom-houses of Buenaventura and Tumaco provided by law 10 of 1888 with exclusive reference to the tariff then in force, nor to the horizontal increase of 25 per cent additional provided by laws 88 of 1886 and 99 of 1888.

"ART. 3. The said increase shall be calculated apart from the duties heretofore provided in the customs tariff, and shall be divided into two equal parts, one of which shall be sent to the National Bank as soon as collected.

"ART. 4. The present decree can not be revoked nor reformed except by law, in accordance with the provisions therefor contained in law 109 of 1892, heretofore cited."

ASPHALT IN TURKEY.*

After diligent inquiry, being unable to find any asphalt within the jurisdiction of this consulate, I thought to obtain some information from the consular agent at Aleppo, but regret to say that his district is likewise destitute of anything of that nature. I then addressed myself to Mr. Selah Merrill, consul at Jerusalem, who answered my inquiry as follows:

There is a large amount of asphalt about the Dead Sea, but nothing is done with it. It is a Government monopoly, and anyone found collecting it is fined and punished. The Government, moreover, does not, and has not in recent years, worked it.

It seems to me that during my former term I reported upon the mineral deposits about the Dead Sea; but have forgotten. The asphalt or bitumen, the sulphur, salt, lead, copper, etc.—all these matters I have paid special attention to, as well as every other matter connected with this country, and I know from personal examination where I think borings for petroleum would be successful. This, of course, is near the Dead Sea.

* For former reports on this subject, see No. 153, pp. 190, 228.

Owing to the time consumed in corresponding with the posts above mentioned, my reply has been delayed; and I regret that the information received is so meager, but at all events the asphaltum mines or deposits are now in a manner located.

Bearing upon this matter, I beg to report that not long ago I saw in the Constantinople paper that a French company was endeavoring to obtain a concession from the Sublime Porte with the view of developing asphaltum mines. Whether the concession was granted, I am unable to say.

WILLIAM C. EMMET,
Consul.

SMYRNA, *May 17, 1893.*

SAVINGS BANKS OF PRUSSIA.

According to official statistics, the savings banks in Prussia exhibit for the fiscal year 1890–'91 a material increase in the amount of money deposited.

The number of banks reported is 1,393, or 15 more than in 1889–'90, with 526 branch establishments and 1,621 places of deposit—an addition of 34 of the former and 75 of the latter during the year.

The total deposits at the opening of the year amounted to $738,378,000; at its close, $781,013,000, showing an increase of $42,635,000. This is an average of $26.07 to each head of the population, against $24.95 for the preceding year.

The entire capital of these banks amounts to only $1,159,850, of which $151,820 is in buildings and land.

During the year the number of accounts was 5,592,662, of which 48,495 were not classified according to amount on deposit. Of the remaining 5,544,167 accounts 29.04 per cent represented deposits up to $14.28, 16.64 per cent from $14.28 to $35.70, 14.64 per cent from $35.70 to $71.40, 15.6 per cent from $71.40 to $142.80, and 24.08 per cent deposits above the latter amount. The average for the 5,592,662 accounts was $139.64.

The cost of running the banks amounted to $1,498,000.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *May 10, 1893.*

NOTES.

Asphalt in Turkey.—Under date of May 13, 1893, Consul Jewett, at Sivas, reports that deposits of asphaltum are said to exist in various places throughout that province, but that the Government Director of Mines has no knowledge of their number or extent. He states that none of these deposits are mined, and that no asphaltum is prepared in the province.

Errata.—In the June CONSULAR REPORTS (No. 153), in the second line of the fourth paragraph, page 156 ("Iron and Iron Ore in Korea"), "Wöusau" should be Wönson. In the second line from foot of page 220 ("Chinese Telegraph System") "Suchan" should be Suchau, and "Zengyueh" should be Tengyueh. In the fourth line of second paragraph, page 221 (same report), "Kuischow" should be Kueichow.

Vienna Artistic Exhibition.—The Department has been informed by the Austro-Hungarian minister that the Society of the Arts of Painting and Sculpture, in Vienna, will celebrate the twenty-fifth anniversary of its existence by an international exhibition to be held in Vienna from March 1 to May 31, 1894. Any special inquiry concerning the arrangements of this artistic exhibition should be addressed to the president of the Viennese Artistic Association (*Vorstand der Wiener Künstler-genossenschaft*).

Change in Salvador Tariff.—Under date of May 24, 1893, Mr. S. G. Dawson, acting consul at San Salvador, writes:

The Government has ratified a decree of Congress raising the importation duties on silk shawls, or "rebosos," plain or embroidered, and on all silk stuffs destined to the manufacture of said shawls to $40 per kilogram (2.205 pounds) and to $10 per kilogram on silk handkerchiefs, pure or mixed. Shawls and handkerchiefs of any material not specified in the tariff shall pay $30 per kilogram. The decree is based on the alleged need of protecting national weavers against foreign competition.

Universal Exposition in Madrid, 1894.—On June 2, 1893, Mr. Snowden transmitted to the Department a copy of the general regulations of the universal exposition to be held at Madrid from April 1 to October 31, 1894, accompanied by a communication, dated May 29, 1893, addressed to him by the president of the exposition, expressing the hope that the United States would appoint a commissioner, with whom the direction of the exposition might correspond with a view to obtain a large share of the products of American industry.

German Imports and Exports.—Under date of May 20, 1893, Mr. George H. Murphy, consular clerk at Berlin, transmits the following statistics, from official sources, relative to the foreign trade of the German Empire during the first quarters of the years 1892 and 1893:

Time.	Imports.	Exports.	Total.
First quarter, 1893	$248,471,048	$199,870,496	$448,341,544
First quarter, 1892	252,903,322	184,243,178	437,146,500
Increase	.....	15,627,318	11,195,044
Decrease	4,432,274	.....	.....

Egyptian Asphalt.—Consul-General Little, at Cairo, reports under date of May 15 as follows:

There is no natural asphalt found in Egypt, except possibly in small quantities above Suakim, near Abyssinia, where it can not be worked profitably. There are said to be small quantities unworked on the east coast of the Red Sea.

Two Egyptian firms manufacture artificial asphalt. They export none from this country. No asphalt is imported from the mines in Turkey or Asia Minor. Here the Asia Minor natural asphalt is considered too expensive, and the natural asphalt used is brought from Milan and Ancona, Italy. Material for the artificial asphalt made here is found here or brought from Italy, France, and England.

I am informed that a Turkish banker exports natural asphalt from Damascus and has other unworked mines near Mount Lebanon which might be secured by American capital. I think those who inquired of the Department must have confused Asia Minor with Egypt. Damascus is far from my territory. From all I can gather, the Turkish mines can not be as formidable competitors as those of Italy.

Mexican Importation of Corn in 1893.—Under date of May 6, 1893, Consul Sampson, at Paso del Norte, made the following report on corn imports from the United States into his district:

Imports of corn for the first four months of 1893.

Month.	Quantity.	Value in Mexican currency.
	Kilograms.	
January	1,919,712	$44,041
February	431,053	9,768
March	1,074,574	18,235
April	4,001,621	71,856
Total	7,426,960	143,900

This total is equivalent to 16,373,477 pounds, valued at $95,634 in United States currency.

The total imports from the United States into this consular district during the six months preceding this period were 40,154,457 kilograms, valued at $1,448,496 in Mexican currency. which is equivalent to 88,524,515 pounds, valued at $956,008 in United States currency.

Thus it will be seen that there was comparatively a material decrease in the importations during the first four months of the year 1893 as compared with the last six months of 1892. The importations now are largely on the increase, as will be seen by a comparison of April with the three preceding months.

Merchants of Doubtful Standing in Amsterdam.—The following list of "suspicious merchants" of Amsterdam is taken from an official statement of the chief of police of that city forwarded by Consul Schleier. Its publication here will warn American exporters against consigning goods to these firms.

Mrs. Winter Holle.
Mrs. Winter Van der Molen.
Madam A. C. Färber.
Madam Marie Van der Meer & Co. or Madam Van der Meer de Vries.
Mrs. Kwak Bönker, also Boncker & Co.
Mrs. de Wed. Wouwenburg.
Madam R. Reinders (millinery).
Mrs. de Wed. M. Zwartjes.
Mrs. Van der Markt Renooij (imports and exports).
Mrs. A. Eichhorn, alias F. C. Lotter or Latter.
Royal Import and Export Company, C. or C. G. Demkes, and J. van den Bergh.
Van den Berg & Zwartjes.
A. Oosterwerf.
E. J. d'Hont (formerly at Rotterdam).
J. Van der Markt & Co.
J. F. L. Muller & Co. (photographers' supplies).
Douwe Van der Kamp.
H. F. Janson & Co., alias Jansen & Co.
Issers de Vries & Co. (commission and consignments).
Den Bruggen & Co.
Wesselink & Co.
L. Beijersbergen & Co.
L. Casteleijn & Co.
W. J. E. Havermans & Co.
Alfred Wienholtz (wholesale table luxuries), firm of Wienholz & Dohm.
Mrs. K. De Vries.
Cornelis Van den Bergh (the Hague).
Van Dormolen & Co. (imports and exports), Van Kempen & Co., Stikkelman Bros. & Co.
Hoen & Co.
Hofstra & Co.
Mrs. Winter Hoen.
Van den Bergh & Co. (importers and exporters).
A. Cordes & Co.
M. Van der Molen & Co.
Holle & Co.
Van Sluisdam & Co.
E. Verkerk or Verkerk & Co.
Ten Have & Co.
Du Chatinier & Co.
Cornelis Van Os.
Kemper Van Drielen & Co.
Latrine Stevens & Co.
Teesink & Co.
Mrs. B. Hummeling, wife of J. Polder.
C. F. Dejong & Co.
Mouthaan & Co.
M. M. R. Greveling & Son.
J. De Vries or J. Westerhoek.
Charles Manie & Co.
C. M. Hanenwinckel, widow of M. J. Van Oppen.
J. M. & T. M. S. Arntz.
Dominique Marchalle (velocipedes).
Rembrand & Co.
A. Kappee & Co.
J. J. Van Aggelen.
Milberg & Co.
Frits Winter.
F. Fisher & Co.
F. Nieuwenhuis & Co., alias G. Sligting, also Vos (Govert Flinckstraat 39).
G. Rigberts (cheese, butter, and eggs at Laren).
Machiel Van Berkel (chemicals).
Mrs. Van der Markt Renooij or Madam J. Renooij (ready-made garments).
Jos. Hekker.
Govers & Co. (Wijtenbachstraat 12, agency and commission business) or Jan Hendrik Komijn.
H. Schneiders & Co., formerly H. Schneiders (Speistraat 24c).

Revocation of Venezuelan Decree Prohibiting Transshipment of Goods at Curacao.—The following translation of a decree issued by the Venezuelan Government on May 22 was transmitted by Consul Plumacher, of Maracaibo, on June 5:

CARACAS, *May 22, 1893.*

On account of the serious inconveniences and difficulties encountered by the import trade of the west, in transshipping at Puerto Cabello merchandise brought from Europe and the United States in vessels which are not able to unload at the port of destination of said merchandise, the chief of the national executive, desiring always to facilitate the execution of legitimate trade operations, has resolved:

That from this date, and until a port be opened on the west coast of the Republic which shall be suitable for the convenient transshipment in Venezuelan territory of merchandise, the transfer may be made at Curaçao under the same conditions as established by the executive decree of January 26, 1883, which is declared in force in all its clauses, thus abrogating the resolution of December 30 last upon the subject.

EZEGUIEL GONDELLES AYALA,
For the National Executive.

METAL FOUNDING

IN

ENGLAND, FRANCE, AND GERMANY.

CIRCULAR.

On October 6, 1892, the following circular letter was addressed to our consular officers in England, France, and Germany:

The executive committee of the Foundrymen's Association of Philadelphia has requested the Department to secure through your good offices certain information concerning the founding of metals in England, France, and Germany, to wit:

"(1) Is there any combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product?

"(2) What are the average wages paid for the different classes of labor in iron foundries?

"(3) What are the average prices paid by foundry men for iron, fuel, sand, and other materials required by them?

"(4) What are the average selling prices of the following different classes of iron castings:

"(*a*) Loam castings.

"(*b*) Dry-sand castings.

"(*c*) Green-sand castings, composed of light castings weighing less than 500 pounds and heavy castings weighing over 500 pounds.

"(*d*) Chilled-iron car wheels.

"(*e*) Cast-iron water and gas pipes.

"(*f*) Steel castings."

In compliance with the request of the above-named association, you are severally requested to prepare a report covering the interrogatories given and transmit the same to the Department at your earliest convenience.

ENGLAND.

BIRMINGHAM.

CONTROL OF SELLING PRICES.

Iron-foundry men combine in an association to regulate the selling prices of chilled iron, rolls, mill and forge castings, but not, so far as I can learn, of small or general castings.

WAGES.

The South Staffordshire Iron Masters' Association, in conjunction with a trade-union wage board, arrange a sliding scale of wages based upon the selling price of iron. The selling price of castings and the wages paid for labor in their manufacture are governed by the selling price of bar iron. The average selling price of bar iron regulates the rate of all wages, but puddling is taken as the basis. Formerly the price paid for puddling was 1*s.* (about 24 cents) per ton for each £1 (4.86\frac{6}{10}$)* of the selling price per ton of bars. For example, £7 ($34.06) per ton for bars, 7*s.* ($1.70) per ton for puddling. Of late years wages have advanced 1*s.* per ton—say £7 ($34.06) for bars, 8*s.* ($1.94) for puddling. The wages paid for rolling, heating, shingling, or hammering and all labor paid for by the ton or by piecework fluctuate in the proportion of 10 per cent to a rise or fall of 1*s.* per ton, or 5 per cent to a rise or fall of 6*d.* (about 12 cents) per ton for puddling.

A board of conciliation, composed of members representing twelve manufacturing firms and twelve members representing the operatives (union and nonunion), meets periodically to adjust the question of wages or any other in dispute. The selling price of bar iron is determined by a quarterly examination of the books of certain prominent or typical firms by a chartered accountant selected by the board, whose sworn duty is to ascertain the average price at which said firms sold their bars during the previous quarter. This average price fixes the rate to be paid for puddling for the ensuing quarter or whatever time may be agreed upon.†

* The values throughout this report were reduced to American equivalents in the Department.

† Under date of December 2, 1892, the consul transmitted the following in relation to the question of wage settlement:

"The standing committee of the Iron and Steel Wages Board met yesterday (December 1) at Dudley, in Staffordshire, 8 miles from Birmingham. Their appointed accountant reported the net average selling price obtained for iron during the months of September and October to have been $30.92 per ton. This average price was based upon his examination of the returns of sales made by eleven representative firms. The increase over the average of the two months previous was 10 cents per ton. This was not material enough to affect the existing scale of wages, which the committee decided should be continued on the basis of $1.86 per ton for puddling until February next (1893). Staffordshire manufacturers are suffering from active competition from other quarters, being frequently undersold in their own district in bars, plates, etc., by northern England and Welsh firms, and in girders and sheet iron by Germans and Belgians. Coal is high. Colliery-owners represent themselves controlled by the miners' unions and unable to sell for any less while the present rates of wages are maintained. Pig iron is firm. All mine, or best Staffordshire, is quoted at $15.20; part mine, $12.06; common, $9.49."

The present per diem rates of wages are as follows:

Description.	Wages.	Description.	Wages.
Foreman molders*	$12.17 to $17.00	Air-furnace men	$1.46
Malleable-iron molders	1.21 to 1.60	Cupola men, or smelters	1.30
Green-sand molders	1.30	Dressers	1.22
Dry-sand molders	1.46	Laborers	.89
Loam molders	1.46	Malleable-iron casters	$1.34 to 1.46

* Per week.

COST OF IRON, FUEL, ETC.

The average prices paid per ton for material are as follows:

Description.	Price.	Description.	Price.
Best deep coal for air furnace	$3.40	Pig iron—Continued.	
Black coal for drying stoves	2.31	Cinders	$5.35 to $9.25
Slack for boilers	1.58	Northamptonshire—	
Charcoal blacking	29.44	No. 1	10.93
Coke:		No. 2	10.33
Best Durham	5.83	No. 3	9.77
Best Welsh	5.35	Derbyshire—	
Pig iron:		No. 1	10.93
Cold blast—		No. 2	10.33
No. 1	25.67	No. 3	9.77
No. 2	14.33	Hematites, mixed—	
No. 3	23.58	No. 1	15.20
Hot blast, all mine—		No. 2	15.20
No. 1	14.57	No. 3	15.20
No. 2	15.20	Loam sand	81
No. 3	14.60	Coal dust	3.89

SELLING PRICES OF CASTINGS.

The following prices of castings are furnished by firms making them for sale and do not apply to those used in engineering work, such as bridges, girders, columns, roofing, or framework for buildings, which are made under contract by engineering firms:

Open-sand castings.—Floor plates, side and end plates for furnaces, buckerstaffs or wall plates, and all flat castings made without being covered, $24.33 per ton.

Loam-sand castings.—Cylinders, $58.39 per ton; pump barrels, $48.66 per ton; general engine castings, $68.12 per ton; general light work, $68.12 per ton.

Dry-sand castings.—Valves, $68.12 per ton; shells for valves, $68.12 per ton; air-pump buckets, $68.12 per ton; condenser boxes, $58.39 per ton; rolls and pinions, according to size, from $68.12 to $77.86 per ton.

Green-sand castings.—Grates, stoves, sinks, gully traps, girders, spindles, boxes, crabs for machinery, etc., weighing less than 500 pounds, $34.06 per ton; weighing over 500 pounds, $31.63 per ton.

Chilled-iron car wheels.—Light wheels, $58.39 per ton; heavy wheels, $48.66 per ton; chilled rolls—heavy, $58.39 per ton; under 12 inches in diameter, $68.12 per ton; under 8 inches in diameter, $77.86 per ton.

Cast-iron water and gas pipes.—Two inches in diameter, $24.33 per ton; 6 inches in diameter, $20.67 per ton; 12 to 18 inches in diameter, $19.46 per ton.

Hammered iron.—Straight shafts, with gudgeons, etc., $3.41 per cwt.; with journals and bosses hammered out, $4.39 per cwt.; single-crank engine shafts, $6.80 per cwt.; double-crank engine shafts, $8.52 per cwt.; ship anchors (ordinary common), $3.91 to $4.86 per cwt.; large and extra good anchors, $8.52 to $10.95 per cwt.

Steel castings.—These are not made in any large quantity in this district; they are made mainly in Sheffield. The average price for medium weights is $7.30 per cwt.

Malleable castings.—The prices of these are 6 to 10 cents per pound.

Brass.—The average market price in Birmingham for fair quality brass is from $182.47 to $189.78 per ton, net. This delivered, say, in Philadelphia, would cost from $189.77 to $206.80 per ton, net, according to qualities, the latter being a good quality of brass. For gun metal various qualities are used, and price varies considerably. From $243.30 to $267.63 per ton would probably represent the average price, delivered in Philadelphia. Wages of brass-casters average about $12 per week to irregular workmen; but skilled workmen of steady habits who work from Monday morning until Saturday night can readily earn not less than $24 per week. All are paid by the piece.

BIRMINGHAM'S SUPPLY OF COAL AND IRON.

Birmingham has been favored in the past by drawing its supplies of coal and iron directly from the Black Country, which lies immediately to the westward, embracing within its boundaries the towns of Wolverhampton, Wallsall, Stourbridge, Bilston, Wednesbury, Dudley, Tipton, West Bromwich, Oldbury, Cradley, Darlaston, Brierley Hill, Smethick, and numerous others less important. The London and Northwestern and Great Western railways, with their connecting branches, together with the extensive canal system of the Birmingham Canal Company, and superior highways, afford every facility for rapid transportation into the interior and to the seaboard. Twenty-five years ago the Black Country was regarded as the coal and iron market of England and richer in mineral resources than any portion of the country, but to-day the supply from the coal fields of South Staffordshire is greatly diminished and fully equaled by that of other mining districts in England and Wales. The quantity of pig iron produced is much less than formerly. Of the number of furnaces built, but a small proportion are now in operation.

ADAM EVERLY,
Consul.

BIRMINGHAM, *November 24, 1892.*

BRADFORD.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages, according to best information obtainable, paid for the different classes of labor in iron foundries are as follows per week of fifty-three hours:*

Description.	Wages.	Description.	Wages.
Loam molders	$8.75	Cupola minders	$5.83
Green-sand molders	8.25	Crane men	5.10
Dressers	5.71	General labor	4.39

COST OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, and sand are as follows per ton:

Iron	$12.16
Fuel	4.19
Sand	1.60

SELLING PRICES OF IRON CASTINGS.

The average selling prices of iron castings are as follows per cwt.:

Description.	Price.	Description.	Price.
Loam castings:		Green-sand castings:	
Light	$2.91 to $4.86	Less than 500 pounds	$2.43 to $4.86
Heavy	2.91 to 4.38	Over 500 pounds	1.92 to 3.63
Dry-sand castings	2.43 to 3.88	Water and gas pipes	1.57
Chilled-iron car wheels	2.91	Steel castings	4.39

A large percentage of foundry men from whom information was sought declined to give it.

JOHN A. TIBBITS,
Consul.

BRADFORD, *December 7, 1892.*

* The values throughout this report were reduced to American equivalents in the Department.

BRISTOL.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men in the consular district of Bristol for the regulation of the selling prices of their product.

WAGES.

The highest price paid for labor in the foundries is to molders engaged upon certain classes of work, and is $9 per week of fifty-four hours; the lowest is $6 per week.

COST OF IRON, FUEL, ETC.

The average cost of material per ton is as follows: Pig iron varies from $34 to $9.43, at present writing, according to quality; coal, such as is used in foundries, is now selling at $2.30; sand is priced at $2.02; foundry coke, $4.86 to $7.40.

SELLING PRICES OF CASTINGS.

Loam castings range in price from $30 to $120 per ton, and the same limits obtain as to dry-sand castings. Green-sand castings are seldom priced below $30 per ton, though sometimes there is a minimum of $25; the maximum is $80. Chilled-iron car wheels at this moment are selling at from $34 to $33 per ton. Cast-iron gas and water pipes range from $22 to $24.50 per ton, while steel castings are priced at from $68 to $120 per ton.

LORIN A. LATHROP,
Consul.

BRISTOL, *November 18, 1892.*

GLOUCESTER.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The weekly wages are as follows: Loam molders, $9.73; green-sand molders, $9.24; laborers, $3.89 to $4.86; dressers, $4.86 to $7.29.

COST OF IRON, FUEL, ETC.

Iron markets vary; the quotations are regularly advertised in the newspapers. Sand costs about $1.22 per ton. Plumbago and blacking vary.

SELLING PRICES OF CASTINGS.

The average selling prices of the different classes of iron castings per cwt. are as follows:

Description.	Price.	Description.	Price.
Dry-sand castings:		Steel castings:	
Plain	$1.95 to $2.43	Small work	$4.78 to $7.29
Intricate (such as light cylinders)	3.65 to 4.38	Castings (20 cwts.)	4.78 to 6.08
Green-sand castings:		Large castings (4 tons or more)	3.89
Weighing less than 500 pounds	1.46 to 2.92	Loam castings	2.43 to 2.95
Weighing more than 500 pounds	1.46 to 2.19		

Chilled-iron car wheels are specialties, and prices depend on the size, weight, etc.

C. E. PORTLOCK,
Consular Agent.

GLOUCESTER, *December 1, 1892.*

MANCHESTER.

CONTROL OF SELLING PRICES.

There is no combination among employers for regulating selling prices or for any other purpose.

WAGES.

Iron-founding as a separate and distinct industry is of small dimensions in this country, except in cases where firms rely on one specialty, such as gas and water pipes, stoves and grates, mill gearing, etc., as engineers and machine-makers of any prominence prefer to do their own casting, being unable to rely on the quality of metal or work of outside foundries; this applies, also, to the railway companies.

The wages per week of fifty-three hours are: Skilled molders, $9.24; laborers, from $4.86 to $5.83.

The molders have a strong union, called the "Friendly Society of Iron Founders of England, Ireland, and Wales." The Associated Iron-Molders of Scotland have a membership of 6,000.

COST OF IRON, FUEL, ETC.

The price charged for foundry sand is 73 cents per ton; for coke (best quality), $5.83 per ton; lower qualities can be had down to $3.65 per ton. Regarding iron for foundry purposes, the market is at present in a depressed condition, prices ruling very low. The following are quotations—less 2½ per cent delivered in Manchester—at date for district brands, per ton:

Description.	Price.	Description.	Price.
Middlesborough	$11.07	Lincolnshire	$10.58
Scotch	11.55	Hematite	13.62
Lancashire	11.19	Steel billets	22.26
Derbyshire	11.80		

SELLING PRICES OF CASTINGS.

I am unable to submit a satisfactory reply as to prices obtained by founders for different classes of iron castings. No firm will quote, unless they know the article and quantity required. The lowest price for castings of inferior metal and requiring no molding skill is $1.34 to $1.46 per cwt.; then, according to nicety of molding and risk of failure in casting, the price mounts up to $4.86 per cwt., and even higher. Loam and dry-sand castings are charged alike, and are about 73 cents per cwt. higher than green-sand castings.

Chilled-iron car wheels, I am informed, are practically obsolete for railway purposes, the passenger cars having wheels with steel tires (filled in with teak) and steel axles. These are quoted complete and ready for fixing to the car by one of the leading firms at $116.79 per set of two pairs. The freight cars have wheels with steel tires and axles and wrought-iron arms, the price ready for fixing being $82.73 per set of two pairs. Chilled-iron car wheels are extensively used for street cars, and are mostly made in Scotland. The price paid by the car company of this city is $3.16 per cwt., and for crucible cast-steel wheels $5.46 per cwt. The wheels when received weigh 170 and 140 pounds, respectively, and the quotations are for the unfinished or rough state.

I have obtained quotations for gas and water pipes from a firm that has large contracts with the corporation of Manchester. The prices for not less than 4-ton lots of plain socket and spigot pipes and specials are as follows:

Description.	Length.	Price per ton.	
		Water.	Gas.
Plain socket and spigot pipes:	*Feet.*		
3 inches in diameter	9	$22.38	$22.62
4 inches in diameter	9	21.77	22.01
5 inches in diameter	9	21.77	22.01
6 inches in diameter	9	21.77	22.01
7 inches in diameter	9	21.28	21.52
8 inches in diameter	9	21.28	21.52
9 inches in diameter	9	21.28	21.52
10 inches in diameter	9	21.28	21.52
12 inches in diameter	9 or 12	21.28	21.52
Specials	.....	40.75	

Delivery is free on board at Hull or Liverpool, and terms are net cash on the 10th of the month following delivery.

As to prices of steel castings, I can only repeat what I have said in reference to iron castings. The prices for steel castings range from $4.38 to $7.78 per cwt., according to size and intricacy of pattern.

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, *December 14, 1892.*

NEWCASTLE.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men here for the regulation of the selling prices of their product.

WAGES.

The average wages paid for the different classes of labor in iron foundries per week of fifty-three hours are as follows:

Loam molders	$8.64 to $8.88
Sand molders	7.02 to 7.15
Cupola men, crane men, etc	5.59 to 6.24
Ordinary laborers	4.62 to 4.86

COST OF IRON, FUEL, ETC.

In 1860 the average price of Cleveland pig iron was $13 per ton; in 1873, $26.60 per ton, an exceptionally high figure, from which it fell in 1887 to the low and unremunerative price of $7.42 per ton. The present prices per ton for the various materials are:

Description.	Price.	Description.	Price.
Foundry pig	$9.73 to $9.97	Limestone	$1.08
Scotch pig	11.66 to 12.16	Loam	$0.97 to 1.45
Hematite	12.64 to 13.12	Sand	.60
Coke	3.40 to 4.39		

SELLING PRICES OF CASTINGS.

The average selling prices of the different classes of iron castings are as follows:

Marine castings.—Steam chests, $2.19 per cwt.; cylinders, $3.03 per cwt.; condensers, $3.03 per cwt.; bedplates, $2.43 per cwt.

Cylinder and locomotive castings.—These are as high as $6.80 per cwt.; but other castings are as low as $3.42.

Loam castings.—Ordinary castings, $2.43 to $2.91 per cwt., according to nature of work.

Dry-sand castings.—Ordinary castings, $1.56 to $2.05 per cwt., according to nature of work.

Green-sand castings.—Ordinary castings, $1.34 to $1.82 per cwt., according to nature of the work (with cores the price is greater); marine castings—under 14 pounds, $3.40 per cwt.; over 14 pounds, $2.05 per cwt.

Chilled-iron car wheels.—These are not manufactured here.

Cast-iron water and gas pipes.—According to size, $18.23 to $21.90 per ton.

Steel castings.—These cost from $4.40 to $8.50 per cwt.; average, $6.08.

The above calculations are based on the ton of 2,240 pounds and the cwt. of 112 pounds.

HORACE W. METCALF,
Consul.

NEWCASTLE, *November 14, 1892.*

NOTTINGHAM.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men to regulate the selling prices of their products.

WAGES.

The average wages paid per week of fifty-four hours for the different classes of labor in iron foundries are as follows: Molders, $8.26; laborers, $4.86.*

COST OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, sand, and other materials are as follows per ton:

Iron	$10.95
Coke	5.71
Sand	1.34

SELLING PRICES OF CASTINGS.

The average selling prices of iron castings per cwt. are as follows:

Loam castings	$3.65
Dry-sand castings	2.67
Green-sand castings:	
Light weight	2.43
Heavy weight	1.95

Chilled-iron car wheels, cast-iron water and gas pipes, and steel castings are not manufactured in Nottingham at present.

JOHN L. McKIM,
Commercial Agent.

NOTTINGHAM, *October 31, 1892.*

SHEFFIELD.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

* The values throughout this report were reduced to American equivalents in the Department.

WAGES.

The average wages paid for the different classes of labor in iron foundries are as follows per week of fifty-four hours:

Description.	Wages.	Description.	Wages.
Molders	$9.25	Fettlers	$6.81
Molders' laborers	$4.86 to 5.83	Pattern-makers	8.75
Core-makers	4.86 to 7.29	Turners and fitters	8.75

COST OF IRON, FUEL, ETC.

The iron used by iron-founders here is mostly Yorkshire and Lincolnshire metal and varies in price from $9.73 to $10.58 per ton. Scotch iron is also used and costs about $13.38 per ton. The fuel used is coke for furnaces and engine coal for boiler fires. Local coke can be bought for $4.26 per ton; but many iron-founders use a coke from the Durham coal field, which, containing less sulphur, is better adapted for their purpose. This coke costs about $5.10 or $5.22 per ton. Engine coal costs about $1.34 or $1.46 per ton. Sand costs about $1.82 per ton, delivered at purchasers' works.

SELLING PRICES OF CASTINGS.

Selling prices of iron castings per cwt. are as follows:

Loam castings	$2.92 to $4.38
Dry-sand castings	2.43
Green-sand castings	1.95
Cast-iron water and gas pipes	1.09 to 1.34
Steel castings	7.29

Chilled-iron car wheels are not made in this district.

BENJAMIN FOLSOM,
Consul.

SHEFFIELD, *March 17, 1893.*

TUNSTALL.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages paid for the different classes of labor per week in iron foundries are: Molders and pattern-makers, $8.28; laborers, $4.86.

PRICES OF IRON, FUEL, ETC.

The prices paid by foundry men for iron vary, according to quality, from $10.95 to $15.82 per ton. The average price paid is $12.77 per ton. Best

Durham coke will average $7.29 and sand $1.95 per ton. All the prices quoted above include carriage and all costs of placing the material on the works.

SELLING PRICES OF CASTINGS.

The following are the average selling prices of the different classes of iron castings per cwt., as far as I am able to discover:

Loam castings	$3.41
Dry-sand castings	2.92
Green-sand castings:	
Weighing less than 500 pounds	2.19
Weighing over 500 pounds	1.70
Cast-iron water and gas pipes	1.58

The selling prices of chilled-iron car wheels and steel castings I am unable to learn.

W. BURGESS,
Consul.

TUNSTALL, *February 10, 1893.*

FRANCE.

LYONS.

CONTROL OF SELLING PRICES.

There is a union, both of masters and workmen, to regulate the rate of wages and to care for the other interests of the trade; but each master is at liberty to regulate his own price in selling.

WAGES.

For ordinary labor the price paid is 7 cents an hour; for skilled labor, from 12 to 16 cents an hour.

COST OF IRON, FUEL, ETC.

Foundry men pay as follows for materials:*

Iron	per 220 pounds	$2.32
Large masses	do	$1.74 to 1.93
Coal	per 2,205 pounds	4.25
Coke	do	6.37
Sand:		
From Fontenay-au-Roses	do	7.72
Inferior quality from Teril	do	3.09

SELLING PRICES OF CASTINGS.

The selling prices of castings per 220 pounds are as follows:

Loam	$6.18
Dry and green sand	6.76
Light castings	$5.75 to 21.16
Heavy castings weighing over 1,100 pounds (castings weighing less than 1,100 pounds cost according to size, quality, and quantity)	4.83
Chilled-iron car wheels	5.40
Cast-iron water and gas pipes	3.47
Steel castings	19.30 to 24.13

EDM. B. FAIRFIELD,
Consul.

LYONS, *November 23, 1892.*

* The weights and measures throughout this report were reduced to American equivalents in the Department.

MARSEILLES.

The city of Marseilles is not a metallurgic center, there being but one really important foundry here—La Société des gaz et haute-fourneaux. The principal French iron works are in the north and east of France; the most celebrated are at Le Creuzot, in the department of Saône-et-Loire.

CONTROL OF SELLING PRICES.

There is no agreement or understanding of any description among the Marseilles foundry men for the regulation of the selling prices of their products.

WAGES.

The wages paid for the different classes of labor in the iron foundries are:

Foremen	per month...	$38.60 to $57.90
Molders	per day...	.86 to 1.35
Scrapers and cleaners	do.....	.67 to .86
Firemen and others	do.....	.57 to .67

PRICES OF IRON, FUEL, ETC.

The average prices paid by iron-foundry men for the materials used are as follows per ton of 2,205 pounds:

Description.	Price.	Description.	Price.
Old iron	$28.95	Specially selected coal	$10.61
New iron	$34.74 to 40.53	Coke	$7.72 to 8.86
Old gray cast iron	11.58 to 15.44	Yellow or red sand	1.35 to 1.44
New gray cast iron in pigs	17.37 to 18.33		

SELLING PRICES OF CASTINGS.

The average selling prices of iron castings per ton of 2,205 pounds are as follows:

Castings in dried clay of less than 4 cwts	$77.20 to $86.85
Dry-sand castings	67.55 to 77.20
Light green-sand castings	54.04 to 61.76
Iron car wheels	48.25 to 54.04

Iron gas and water pipes are manufactured at Pont à Mousson principally. Pont à Mousson is near Metz, in the extreme northeast of France.

Steel is not cast in the Marseilles foundries.

CHARLES B. TRAIL,
Consul.

MARSEILLES, *December 19, 1892.*

NICE.

CONTROL OF SELLING PRICES.

But little iron is cast in the Alpes Maritimes, and the foundry men have no combination of any kind as to prices.

WAGES.

Wages are from 80 cents to $1.40 per day, paid every two weeks.

PRICES OF IRON, FUEL, ETC.

The prices paid for materials are about as follows:

Old iron	per 220 pounds	$1.50
New iron	do	2.50
Coal	per ton	9.00
Sand	per cubic meter	1.20

SELLING PRICES OF CASTINGS.

No loam castings are made. Dry and green sand castings bring from $4 to $20 per 220 pounds. No steel castings are made.

WM. HARRISON BRADLEY,

NICE, *October 23, 1892.* *Consul.*

RHEIMS.

CONTROL OF SELLING PRICES.

There is no combination or association among the iron-foundry men of this consular district for regulating the selling prices of their products.

WAGES.

The average wages paid for the different classes of labor in iron foundries are as follows per diem: Common workmen, 68 to 77 cents; molders, 87 cents to $1.16.

PRICES OF IRON, FUEL, ETC.

Iron bought for casting costs from 68 to 74 cents per 100 pounds; coke, about $2.64 per 1,000 pounds; sand, $1.35 per cubic meter; wood, about $1.54 per stere (35.31 cubic feet).

SELLING PRICES OF CASTINGS.

The foundries in this part of France are on a rather small scale. They make only pieces for machinery, such as pulleys and wheels used in woolen factories or flouring mills. The ordinary price at which they sell such pieces is about $5.79 per 220 pounds.

ALTON ANGIER,

RHEIMS, *November 8, 1892.* *Consul.*

ROUBAIX.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men in this district for the regulation of the selling prices of their product.

WAGES.

The wages paid in the foundries in this district are as follows per hour:

	Cents.
Plate-molders	6
Lasting-cleaners	6 to 7½
Melters	6½ to 7½
Core-makers	8 to 10
Laborers	5½ to 6

A few head men are more highly paid. The workday is eleven hours.

COST OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, sand, and other materials required by them are as follows:

Scotch and French pig iron	per 220 pounds	$1.20 to $1.60
Coke (taken at source)	per ton	5.00 to 6.00
Green sand (taken at source)	do	.50
Mineral black	per 220 pounds	2.35

SELLING PRICES OF CASTINGS.

The average selling prices of the different classes of iron castings are as follows per 220 pounds: Small castings, $4 to $6; heavy castings, $3.60 to $5.

The above information was obtained from the most important manufacturer of machinery in Roubaix.

W. P. ATWELL,
Commercial Agent.

ROUBAIX, *November 10, 1892.*

ROUEN.

A DECAYED FOUNDRY.

A large foundry still exists in this consular district between Calais and Boulogne-sur-mer, but in a very different condition from that which it occupied in past years. It gave employment at one time to more than 3,000 men. Iron ore abounded in the neighborhood, and coal taken from mines a few miles distant was brought by rail into the works. In these works casting from the ore, without passing through the usual process of converting into pig iron, was first attempted in France. The works supplied Rus-

sia with immense breakwaters for railway works and ice-protecting systems for bridges. They had pipe contracts for water supplies in Algiers, Paris, and even in England. Suddenly the iron ore, which was a mere vein, gave out, and the coal was under water.

The works at Marquise, stopped or nearly so for a number of years, passed into the hands of a Paris firm. The consular agent at Calais visited these works at my request and received the following information from the manager of the iron foundry. They work a small quantity of iron ore brought from Cherbourg via Boulogne-sur-mer. Instead of 100 to 120 railway flats as formerly used per day, that number of cars suffices now for a month. They cast some small pipes; but all were shipped at Boulogne, and prices could not be obtained.

The foundries in this part of France are few, and are carried on upon a very small scale. The castings for the supply of cotton factories are mostly brought from England. Nearly all the machinery is brought from England. Other pipe castings, car wheels, etc., are cast in the neighborhood of the iron mines. For these reasons I could not answer some of the questions, and others very unsatisfactorily. The report is very meager, although it contains all that I could find out by the most careful searching.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages paid per day of ten hours for the different classes of labor in iron foundries are: Laborers, 60 to 77 cents; molders, 87 cents to $1.74.

PRICES OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, sand, and other materials required by them are as follows:

Pig iron	per 220 pounds	$1.54
Coke	per ton	$5.21 to 5.79
Sand	do	.77 to .96

SELLING PRICES OF CASTINGS.

The average selling prices of the different classes of iron castings are as follows per 220 pounds:

Loam castings	$5.79 to $7.72
Dry-sand castings	5.40 to 13.51
Green-sand castings:	
Weighing up to 500 pounds	2.89 to 3.86
Weighing over 500 pounds	2.32 to 2.90

CHAS. P. WILLIAMS,
Consul.

ROUEN, *November 17, 1892.*

GERMANY.

CONTROL OF SELLING PRICES.

The report of the German Union for Iron and Steel Manufacturing for 1891, to which I am indebted for most of the information embodied in this report, takes a rather despondent view of the industry in question. The difficulties in railway transportion during the first half of 1891 and the large number of mining strikes had a most unfortunate effect. Coal was maintained at abnormally high prices, while the scale of iron prices was a constantly falling one. The outlook for 1892 was declared to be far from encouraging. With a prospect of continued overproduction in the world's markets, dealers were buying just enough to cover immediate demands.

The above union is composed of 318 members, with 9,274½ votes. The amount of invested capital represented is about $357,000,000,* and the number of workmen employed is about 250,000. There are other associations, notably a union of foundry men; but the activity of these unions is confined entirely to an interchange and diffusion of useful information among the members. No association for the regulation of selling prices exists; on the contrary, the competition is very sharp.

WAGES.

Wages underwent a perceptible improvement in 1889. They have since been maintained at the standard to which they were then raised, though suffering a slight decline in August, 1891. The ordinary workmen in foundries receive, on the average, 83 cents per day of ten hours; the more skilled are paid by the piece and earn from 83 cents to $1.43. The average wages paid per month in the Rhine district during 1891 were as follows:

Month.	Foundries.	Machine shops.
January	$22.64	$23.85
March	21.99	24.60
May	22.18	24.63
July	22.04	25.97
September	21.62	25.97
November	21.11	24.30
December	20.33	23.78

PRICES OF IRON, FUEL, ETC.

The cost of sand is trifling, and varies so much in different localities that it is impossible to give an average price. As to fuel, the following table

* The values and weights throughout this report were reduced to American equivalents in the Department.

will show the varying prices at different periods. The figures given are per ton at the colliery.

Month.	Coal.				Blast-furnace coke.	
	Westphalian.		Silesian.		Upper Silesian.	Rhenish.
	Foundry.	Coke.	Lump.	Small.		
1890.						
January	$3.21	$2.62	$2.02	$1.43	$4.85	$4.47
April	3.33	3.09	2.02	1.43	4.88	5.04
July	2.86	2.74	1.90	1.43	5.12	4.45
October	2.86	2.50	1.90	1.31	5.01	3.89
1891.						
January	2.86	2.26	1.90	1.31	4.76	4.54
April	2.74	2.28	1.90	1.33	4.88	4.09
July	2.62	2.28	1.96	1.31	4.76	3.87
October	2.62	2.26	1.90	1.29	4.47	3.81
December	2.26	2.02	1.90	1.31	3.69	3.08

Average prices of iron in German cities.

[Per ton of 2,205 pounds.]

Description.	1889.	1890.	1891.
Berlin:			
Scottish cast iron	$21.42	$22.14	$19.51
English cast iron	15.77	17.09	14.74
Breslau:			
Puddling iron	13.96	15.85	11.47
Cast iron	15.48	17.72	13.04
Dortmund:			
Bessemer iron	15.69	18.52	12.57
Puddling iron	15.36	16.66	12.40
Thomas iron	.....	14.51	11.76
Dusseldorf:			
Puddling iron	15.54	18.44	13.57
Cast iron	16.83	19.90	16.94
Hamburg:			
Scottish, No. 1	19.09	21.21	19.17
Middlesboro, No. 1	15.80	16.86	14.87
Lübeck (Swedish rod or bar iron)	46.11	54.18	49.64

Average price of domestic iron at works.

[Per ton of 2,205 pounds.]

Kinds.	1890.	1891.
Raw puddling iron:		
White-veined Rhine Westphalian	$18.44	$13.23
Ordinary Rhine Westphalian	16.66	10.66
Silesian	16.42	12.74
Luxemburg-Lorraine	14.30	9.80
Nassau quality	18.32	12.32
Nassau charcoal-raw iron	21.44	18.61
Spiegel, Silyen-Nassau	19.99	13.85
Raw cast iron:		
Rhine Westphalian—		
No. 1	20.23	16.85
No. 2	18.92	15.47
No. 3	17.30	14.18
Silesian—		
No. 1	20.75	16.42
No. 2	18.56	14.80
Bessemer iron (raw), Rhine Westphalian	20.34	12.37
Thomas-Gilchrist iron	15.87	11.64

SELLING PRICES OF CASTINGS.

The average selling price of dry-sand castings weighing under 500 pounds is $2.50 per 100 pounds; castings weighing over 500 pounds, $1.80 per 100 pounds. The average selling price of light green-sand castings of less than 500 pounds is $2.23 per 100 pounds; heavy green-sand castings weighing over 500 pounds, $1.67 per 100 pounds.

Average selling prices, at the works, of finished iron products at the close of the years 1890 and 1891.

[Per ton of 2,205 pounds.]

Description.	1890.	1891.
Rod or bar iron:		
Rhine Westphalian	$36.89	$29.75
Silesian	30.94	28.56
Hartz Mountain, etc	31.42	28.56
T or angle iron:		
Rhine Westphalian	38.56	33.32
Silesian	33.32	29.75
Iron beams:		
Silesian	30.94	27.85
Saar	36.41	22.61
Sheet iron:		
Rhine Westphalian	52.36	39.25
Silesian	38.08	33.32
Rolled iron (Rhine Westphalian)	29.75	27.37
Drawn wire (Rhine Westphalian)	32.13	30.94
Tin plate, Westphalian, J. C. L. (51 kilograms per case, net)	5.20	4.49
Steel rails:		
Rhine Westphalian	34.51	27.37
Silesian	34.51	28.08
Rhine Westphalian:		
Bessemer-steel bands	54.74	49.79
Axletrees	54.74	49.79

Average selling prices, at the works, of finished iron products, etc.—Continued.

Description.	1890.	1891.
Rhine Westphalian—Continued.		
Wheels (per lots of 900 to 1,000 kilograms)	$76.16	$66.64
Springs	86.92	71.40
Spirals	88.06	80.92
Cast-iron supporting beams	32.60	27.37
Cast-iron long beams	34.51	28.56
Wedge blocks	54.50	42.36
Wire tacks	45.93	32.13
Cast-iron ovens:		
Pfalz	54.26	42.84
Westphalian	49.27	38.32
Silesian	42.84	37.60
Bavarian	54.74	43.79
Regular ovens:		
Silesian	48.79	42.36
Hartz	54.93	46.65
Iron pots:		
Middle Germany	61.88	49.98
Lower Silesia	64.26	51.17
Enameled pots (Middle Germany)	88.06	78.54
Pillars, etc.:		
Silesian	41.65	30.94
Nassau	38.08	31.18
Light, high-class machine iron (Middle Germany)	57.12	40.46
Heavy, high-class machine iron (Saarburg)	45.22	40.46
Saxony:		
Steam-engine boilers, etc	145.18	147.56
Tool machines	178.50	172.95
Spinning machinery	178.50	176.12
Weaving machinery	148.04	145.18
Locomotives	240.38	269.42

PRODUCTION OF IRON AND IRON MANUFACTURES.

Production from 1879 to 1891.

Year.	Puddling iron.	Bessemer and Thomas raw iron.	Foundry raw iron.	Broken iron.	Total.
	*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**
1891	1,714,030	†2,088,475	616,414	.....	4,452,019
1890	1,862,895	2,135,799	651,820	7,937	4,658,451
1889	1,905,311	1,965,395	640,188	13,664	4,524,558
1888	1,898,425	1,794,806	628,293	15,897	4,337,421
1887	1,756,067	1,732,484	520,524	14,878	4,023,953
1886	1,590,792	1,494,419	429,891	13,556	3,528,658
1885	1,885,793	1,300,179	486,816	14,645	3,687,433
1884	1,960,438	1,210,353	414,528	15,293	3,600,612
1883	2,002,195	1,072,357	379,643	15,524	3,469,719
1882	1,901,541	1,153,083	309,346	16,835	3,380,806
1881	1,728,952	886,750	281,613	16,694	2,914,009
1880	1,732,750	731,538	248,302	16,447	2,729,038
1879	1,592,814	461,253	161,696	10,824	2,226,587

* Tons of 2,205 pounds. † Bessemer in 1891, 384,196 tons; Thomas, 1,704,279 tons.

Production in the German Empire and the Duchy of Luxemburg.

Description.	1888.	1889.	1890.
	*Tons.**	*Tons.**	*Tons.**
Iron ore	10,664,307	11,002,187	11,406,132
Raw iron	4,337,121	4,524,558	4,658,451
Finished products of iron:			
Iron half products (lumps, etc.) for sale	649,747	746,555	690,721
Sheeting	65,784	71,719	75,774
Pipes	144,512	158,834	177,003
Other cast-iron ware	678,437	803,787	830,389
Rails and parts for fastening rails	456,513	451,308	570,978
Iron beams and parts for fastening beams	123,562	111,941	145,827
Axletrees, wheels, tires	88,942	102,954	108,087
Waste iron, building and profile iron	1,227,847	1,389,345	1,335,339
Plates and sheets (tin plate excepted)	379,980	442,764	417,594
Tin plate	18,231	22,269	21,348
Wire	411,369	399,330	339,281
Artillery and firearms	8,575	11,943	10,187
Other iron and steel wares (parts of machinery, etc.)	122,312	151,610	128,831
Total	4,375,811	4,864,359	4,851,359

* Tons of 2,205 pounds.

The value of the production in the German Empire and the Duchy of Luxemburg in 1888, 1889, and 1890 was as follows:

Description.	Total.			Per ton.		
	1888.	1889.	1890.	1888.	1889.	1890.
Iron ores	$9,510,746	$11,059,506	$11,383,306	$0.89	$1.00	$0.99 7/16
Raw iron	45,536,367	51,734,187	63,684,040	10.50	11.45	13.66
Finished products of iron	135,671,900	164,144,316	179,380,600	31.00	34.74	36.97

ALBERT H. WASHBURN,
Commercial Agent.

MAGDEBURG, *December 24, 1892.*

BRESLAU.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages paid for the different classes of labor in iron foundries are $5 to $5.70 per week.*

*The values and weights throughout this report were reduced to American equivalents in the Department.

PRICES OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, sand, and other materials required by them, delivered free at Breslau, are as follows:

Iron	per 220 pounds	$1.67
Fuel	do	.58
Sand and other materials	per 3,307 pounds	2.86

SELLING PRICES OF CASTINGS.

The average selling prices of the different classes of iron castings are as follows per 220 pounds:

Description.	Price.	Description.	Price.
Loam castings	$4.76	Chilled-iron car wheels	$5.24 to $5.71
Dry-sand castings	4.05	Cast-iron water and gas pipes (according to dimensions)	4.76 to 9.52
Green-sand castings:		Steel castings	5.44 to 6.66
Weighing less than 500 pounds	3.81		
Weighing more than 500 pounds	3.77		

Neither water or gas pipes nor chilled-iron car wheels are made in Breslau; but the foregoing prices were given by Gebrueder Guttsmann, the leading founders here, to whom I am indebted for the information contained in this report.

C. W. ERDMAN,
Consul.

BRESLAU, *October 12, 1892.*

CHEMNITZ.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages paid for the different classes of labor in iron foundries per day of ten hours' work are as follows:*

Laborers	$0.60
Core-makers	.83
Sand molders	1.31
Loam molders	1.43

PRICES OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron, fuel, sand, and other materials required by them are as follows: Pig iron, $1.79 to $2.02 per 220 pounds; coke, $59.50 per 22,050 pounds.

*The values and weights throughout this report were reduced to American equivalents in the Department.

SELLING PRICE OF CASTINGS.

The average selling prices of the different classes of iron castings per 220 pounds are as follows:

Loam castings	$6.66 to $8.33
Dry-sand castings	5.24 to 6.19
Green-sand castings:	
Weighing less than 500 pounds	4.20 to 5.24
Weighing more than 500 pounds	3.77 to 4.20

Regarding chilled-iron car wheels, cast-iron water and gas pipes, and steel castings, I beg to inform the Department that no work of this nature is done in this city, but all such articles are manufactured in Westphalia.

JOHN A. BARNES,
Consul.

CHEMNITZ, *November 12, 1892.*

DUSSELDORF.

CONTROL OF SELLING PRICES.

After diligent inquiry in many quarters, I have not been able to learn that any combination or understanding exists here among foundry men for the regulation of the selling prices of their product. Foundry men would, of course, be apt to deny that such is the case; but, having interviewed several disinterested parties who might be supposed to have extended knowledge on this subject, and these having in each instance given it as their opinion that no such "trust" was in existence, I think this question must be answered in the negative.

WAGES.

The average wages paid per diem for the different classes of labor are as follows:*

Loam molders	$1.19 to $1.57
Sand molders	.95 to 1.07
Melters and founders	.95 to 1.07
Cleaners	.83 to .95
Common workmen	.71 to .83

PRICES OF IRON, FUEL, ETC.

The average prices paid per ton by foundry men for iron, fuel, etc., are as follows:

Description.	Price.	Description.	Price.
Pig iron (loco high furnace)	$13.09 to $16.66	Molding sand (without freight)	$0.60 to $0.71
Scrap iron (loco foundry)	11.90 to 14.28	Graphite (without freight)	17.85 to 23.80
Foundry coke (without freight)	2.14 to 2.87	Limestone (without freight)	1.07

* The values and weights throughout this report were reduced to American equivalents in the Department.

SELLING PRICES OF CASTINGS.

The average selling prices of castings are as follows:

Description.	Price.	Description.	Price.
Loam castings.....per ton...	$30.94 to $90.44	Dry-sand castings.....per ton...	$37.70 to $57.12
Green-sand castings:		Chilled-iron car wheels.....do.....	47.60 to 71.40
Less than 500 pounds...do.....	37.70 to 57.12	Steel castings..per 2.205 pounds...	.07 to .36
More than 500 pounds..do.....	37.70 to 47.60		

In conclusion, I beg to state that I am under obligations to the firm of Fried. Krupp, the great founders and gun manufacturers at Essen-on-the-Ruhr, for much of the information contained in this report.

SOREN LISTOE,
Consul.

DUSSELDORF, *February 1, 1893.*

KEHL.

In order to obtain the information necessary for answering the questions contained in Department's circular of the 6th of October, 1892, letters of inquiry were addressed to the different iron foundries in this consular district. Only two replies were received, and their substance is given in the following:

Statement of Messrs. De Dietrich & Co., of Niederbronn, Alsace.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding whatsoever among iron-foundry men for the regulation of the selling prices of their product.

WAGES.

The average wages paid in foundries for the different classes of labor are from 71 cents to $1.43 per day.

PRICES OF IRON, FUEL, ETC.

The average prices paid by foundry men for iron and fuel are as follows per ton:

Iron	$19.04
Coal	4.76

SELLING PRICES OF CASTINGS.

The average selling prices of castings per ton are as follows:

Description.	Price.	Description.	Price.
Loam castings	$57.12	Green-sand castings:	
Dry-sand castings	47.60	Weighing less than 500 pounds	$47.60
Cast-iron water and gas pipes	33.32	Weighing more than 500 pounds	42.84

Statement of the Iron Works of Gaggenau, Baden.

CONTROL OF SELLING PRICES.

There is no combination, association, or understanding among the foundry men of Baden for the regulation of the selling prices of their product.

WAGES.

Molders are paid an average of 71.4 cents to $1.07 per day; laborers, 43 to 60 cents per day.

PRICES OF IRON, FUEL, ETC.

Raw iron costs from $10.71 to $19.04 per long ton. Coke is used as fuel and costs $5.95 per long ton. Sand, depending on the quality, costs from 48 cents to $1.66 per long ton.

SELLING PRICES OF CASTINGS.

The average selling prices per long ton are as follows:

Loam castings:	
Open hearth	$23.80 to $28.56
Wet machine	38.08 to 57.12
Dried form	57.12 to 95.20
Dry-sand castings (depending on nature of pieces)	42.84 to 66.64
Green-sand castings	30.94 to 42.84

The prices of the green-sand castings depend on the nature of the pieces, there being no difference in price between castings weighing over 500 pounds and those weighing less than 500 pounds.

CARL A. HANSMANN,
Vice and Acting Consul.

KEHL, *December 3, 1892.*

MAYENCE.

CONTROL OF SELLING PRICES.

Pipe foundries have an agreement regulating the selling prices of their products, but the ordinary foundries have no such understanding or combination.

WAGES.

The average wages paid per diem are as follows:*

Common day laborers	$0.58
Sand molders	$0.71 to .95
Loam molders	.95 to 1.07

PRICES OF IRON, FUEL, ETC.

The average prices paid for iron, fuel, etc., are as follows:

Description.	Price.	Description.	Price.
Foundry iron (German):		Mold sand.....per 22,000 pounds...	$4.75
No. I (at works)....per 2,200 pounds...	$14.75	Graphite.....per 220 pounds...	$2.38 to 2.85
No. III.....do.....	13.09	Coal dust.....do.....	.95 to 1.07
Coke.....per 22,000 pounds...	36.89		

*The values and weights throughout this report were reduced to American equivalents in the Department.

SELLING PRICES OF CASTINGS.

The average selling prices of castings are as follows per 220 pounds:

Description.	Price.	Description.	Price.
Loam castings	$4.25 to $6.66	Dry-sand castings	$3.57 to $6.66
Green-sand castings:		Cast-iron water and gas pipes:	
Weighing less than 500 pounds	3.33 to 4.28	Ordinary water pipes	3.50
Weighing more than 500 pounds	2.85 to 4.75	Ordinary gas pipes	3.75

When made after particular patterns, the prices for cast-iron water and gas pipes range considerably higher—up to $6.25 per 220 pounds.

It was not possible to obtain the information sought for as to chilled-iron car wheels. These car wheels, being made of very different materials, can not, it is said, have an average price given for them. I have, however, been furnished with bids made last month (January) for furnishing the Government railways of Saxony and the Prussian railway administrative office at Bromberg with tires (*Radreifen*) for car wheels. In the case of Saxony, 830 tons of steel tires were to be supplied, the bids averaging from $4.93 to $5.14 per 220 pounds delivered at railway station in loads of 22,000 pounds. For the railways under the Bromberg office, 1,195 tires were to be supplied, the bids averaging from $4.02 to $8.09 per piece delivered at the railway station of the steel works.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *January 26 and February 16, 1893.*

LOWER RHINE AND SAARBRÜCK.

There are no important foundries or iron works in the vicinity of Frankfort; and the following prices of labor, materials, and product which are submitted in reply to the Department circular of October 6 have been obtained from the foundries of the lower Rhine district and from Saarbrück.

CONTROL OF SELLING PRICES.

There is a combination among one class of foundry men only, viz, the makers of cast-iron pipes. Other foundry men in this part of Germany operate independently, and in the present state of the iron market the competition between them is sharp and enterprising.

WAGES.

The average wages paid per diem are as follows:

Loam molders	$0.95 to $1.08
Sand molders	.75 to .95
Common laborers	.60

PRICES OF IRON, FUEL, ETC.

The prices of materials per ton of 2,205 pounds are as follows:

German foundry pig:	
No. 1	$14.75 to $15.00
No. 2	14.00
No. 3	13.10
Plumbago	23.80 to 28.50

SELLING PRICES OF CASTINGS.

The selling prices of castings are as follows per 220 pounds:

Loam castings (according to size and character)	$4.05 to $7.15
Dry-sand castings	3.80 to 6.60
Green-sand castings:	
Weighing less than 500 pounds	3.33 to 7.15
Weighing more than 500 pounds	2.85 to 4.75

Solid chilled-iron car wheels, such as are used in the United States, are but little used in Germany, and no trustworthy statistics of this special form of manufacture are available here. The usual type of car wheel is a cast-iron rim with chilled "tread" set upon wrought-iron spokes fitting into a cast-iron hub. They are light and strong, and, like every other part of railway rolling stock, are made with the idea of securing the utmost possible strength combined with lightness.

Cast-iron pipes come under the combination price list already referred to, which is at present, for ordinary sizes and patterns, $35 for water pipes and $37.50 for gas pipes per ton. Special sizes and patterns made to order range from the above prices to $60 per ton.

Steel castings range in price from $37.50 per ton for coarse, heavy work to $155, and so on up to $200 for fine cast-steel tools, etc. These latter are sold in 220-pound lots, and the prices range therefor from $15.47 to $20.23 per 220 pounds.

FRANK H. MASON,
Consul-General.

FRANKFORT, *January 24, 1893.*

MUNICH.

I would say that the inquiries relating to the founding of metals have been submitted to the director of F. S. Kustermann's iron foundry (one of the largest in the city), who returns the following answers:

CONTROL OF SELLING PRICES.

A proper combination or association (in the literal sense) for regulating the selling prices of their product does not exist in Germany. Only in the assemblies of the Union of German Iron Founders the selling prices occasionally come under notice; and as regards special groups or classes of articles, a partial agreement is reached, which, however, is in no sense binding and serves only as a general standard.

WAGES.

The average daily wages of the different classes of laborers in the foundries are as follows:*

	Cents.
Adult and experienced founders	98.5
Apprentices	30
Kernmacher	60
Polishers	62
Day-laborers	62

PRICES OF IRON, FUEL., ETC.

The average prices paid for material are as follows per 220 pounds:

Iron	$1.70
Smelting coke	.14
Gas coke	.11
Molding sand	.01⅔

SELLING PRICES OF CASTINGS.

The average selling prices of castings per 220 pounds are as follows:

Description.	Under 500 pounds.	Over 500 pounds.
Loam castings	$5.95	$5.24
Dry-sand castings	5.48	4.28
Green-sand castings	5.00	3.81
Chilled-iron car wheels	6.29	5.24
Water and gas pipes	3.77	.....
Steel castings	16.66	.....

T. L. CORNING,
Vice-Consul.

MUNICH, *January 25, 1893.*

* The values and weights throughout this report were reduced to American equivalents in the Department.

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 155.—AUGUST, 1893.

GERMAN ECONOMY IN IRON MANUFACTURE.*

It has been recently noted in England with something like alarm that the production and export trade of iron and steel in Germany have been steadily growing during the past ten years at a rate out of all proportion to the development of Great Britain in the same field, and that railway wheels, ties, axles, wire, etc., of German origin are not only making serious inroads upon foreign markets which British exporters have hitherto almost exclusively controlled, but are now sold to some extent in England. The fact that, in spite of all advantages which English ironmasters derive from long experience, cheap and abundant coal, and unequaled shipping facilities, they are now undersold on their own ground by their German rivals would seem incredible if it were not sustained by actual statistics; and it may be of interest to American metal-workers to examine briefly the more obvious causes of the notable progress of Germany in this important branch of industry.

It is conceded that until about 1880 the British export trade in iron and steel was all that could be reasonably desired. Not only in respect to coal and skilled labor, but in facilities for importing ores from Spain, Scandinavia, and other foreign sources and for exporting their product, the English and Welsh furnace men seemed to have a secure advantage over their continental rivals. But it is now found that English exports of railway iron and steel have fallen from 1,000,000 tons per annum a few years ago to 703,370 tons in 1891 and 467,986 tons in 1892, while German exports of the same products, which had scarcely begun in 1880, have risen to 198,421 tons in 1890 and 233,943 tons in 1891, with a total export of pig

* In submitting this report the consul says: "In consequence of inquiries which I have received from American mining and gas engineers concerning the improved methods by which certain by-products of coke manufacture are now saved in Germany, I have made a somewhat careful study of the subject and beg to submit herewith a report on that topic with some reference to the economical relation of such improved coking processes to iron and steel manufacture in Germany. In view of the surprise which has been caused by the metal exhibit of Germany at Chicago, it is believed that the subject of the inclosed report may possess at this time a somewhat general interest."

and finished iron and steel amounting to a yearly average of 1,050,000 tons. Not only this, but, in spite of the increased cost of coal in Germany, due to higher wages demanded by miners and the steadily increasing coal consumption in face of a definitely limited supply, the metal production of Germany has continued to increase. The proportions of this growth will be apparent when, with the fact in mind that in 1870 the total output of Germany was only 886,000 tons of iron and 125,000 tons of steel, we consider the following statistics of finished iron and steel manufacture in this country during the past two years:

Description.	1891.	1892.
	Tons.	*Tons.*
Bar and section iron	1,335,000	1,334,000
Blooms, billets, and ingots	690,700	790,500
Plates	417,500	425,100
Tin plates	21,300	23,400
Steel and iron rails	824,800	891,400
Wire	339,200	402,500
War materials	10,100	11,100
Total	3,638,600	3,878,000

The increase in 1892, it will be seen, was 239,400 tons.

Comparing the growth of iron and steel production in Great Britain and Germany from 1880 to 1892, inclusive, it appears that, whereas England shows an increase of only 70 per cent, Germany has achieved during the same period a net growth of nearly or quite 400 per cent.

A result as striking as this must be the outgrowth of causes so radical as to be interesting to all who are concerned, either theoretically or commercially, in the metallurgy of steel and iron. The growing importance of Germany in this field would seem to be due largely to two fundamental facts: (1) the introduction of the basic process, which enables the iron and steel makers of Westphalia, Silesia, and the Saarbrück district to use their cheap and abundant native ores; and (2) the unrivaled chemical skill of the Germans, whereby they have succeeded in saving the by-products of coke manufacture, thus deriving a revenue from processes which in other countries entail a waste of material and financial loss.

THE BASIC PROCESS.

Of the basic process itself there is little or nothing new to be said. It is understood as fully and practiced as successfully in the United States as in any part of the world. But its introduction into Germany has revolutionized the whole economy of steel manufacture in this country. With fair facilities for importing the richer ores of Spain and Sweden, the German furnace men found their whole list of native ores available, and when special processes were necessary to facilitate the employment of materials which had previously been considered worthless, they were invented and applied. In a previous report of this series (No. 137, p. 246) an account was given of a

special process for the desulphuration of raw iron from the blast furnace by treatment with manganese, as invented and first practiced in direct steel production at Hœrde, in Westphalia. This process, which has since been adoped at various other points on the Continent and in England, secures the production of excellent steel from materials so heavily charged with sulphur as to be impracticable for that purpose by ordinary methods.

ECONOMY OF BY-PRODUCTS OF COKE.

Equally original and not less important in the general economy of iron manufacture are the more recent German improvements in coke-making, by which the subsidiary products—ammonia, tar, and tar oils, with their valuable elements benzole, anthracene, etc.—are saved from the waste that attends the ordinary coking process. In this special field Germany is now so far in advance of other countries that some understanding of the methods employed here is important in the present connection.

The first record of any practical interest in the saving of ammonia and tar from the coking process appears in a paper which was read before a convention of ironmasters at Dusseldorf by one F. W. Lurman in 1858. The main principles involved were clearly stated, but the requisite apparatus was so elaborate and expensive and the financial results then so doubtful that progress was for a long time slow and uncertain. The improved methods now in use, and which have produced the best results, are mainly the work of the past five years. What is known as the Semet-Solvay system is the one principally in use in Belgium; but the most advanced representative of German progress in this direction is probably the Otto-Hoffman coke oven, of which there are about 1,550 now in use—535 in Westphalia, 700 in Silesia, 75 in the Saar district, and 240 in Austria. Although elaborate and costly in construction, this oven is durable and, by reason of its great saving in gas, highly economical in operation, aside from its efficiency in saving the subsidiary products. The complete apparatus is a combination of the Otto oven (32 feet long, 16 inches wide, and 5½ feet high) with the Siemens regenerator in such manner that the air to be used for the combustion of gases is first heated to a temperature of about 1,800° F.

For the most economical service these ovens are built in groups or batteries of sixty, and half the number are alternately filled each forty-eight hours. The oven has three openings through which it is charged from above with 6½ tons of air-dried coal. The openings being then tightly closed, heat is applied, and the gases generated are drawn off through collecting pipes by the action of a suction fan into coolers and scrubbers, where the tar and ammonia are deposited in water by mechanical distillation. The gas, thus purified of tar and ammonia, is then reconducted to the bottom of the ovens, where it is mingled with the heated air above mentioned and burned as fuel in the process of roasting the coal. The percentage of gas produced varies somewhat with the quality of coal used; but with all the German coals the gas thus generated is greatly in excess of what is required

for heating the ovens, and the surplus is available for making steam, lighting, and for other purposes.

The water from the coolers and scrubbers, charged with the ammonia that has been absorbed from the gas, is subject to heat, which expels the ammonia as vapor, which in presence of sulphuric acid forms sulphate of ammonia, a white salt that is extensively used for fertilizing purposes. The tar, by reason of its gravity, settles to the bottom of the water and is easily separated. It is more valuable than the tar produced in the ordinary manufacture of illuminating gas, on account of its greater percentage of benzole and anthracene. For a long time there prevailed among German ironmasters a notion that coke produced by any process that saved the by-products was thereby injured for iron-making, but this is now completely dispelled. The coke made by the above process is conceded to be of the highest quality for all purposes.

The operation of coking requires in the Otto-Hoffman ovens from twenty-four to forty-eight hours; and the product from good air-dried coal containing from 15 to 17 per cent of water is about 76 per cent of coke, 1.15 to 1.25 per cent of sulphate of ammonia, and from 2.5 to 4 per cent of tar. In a recent number of the Journal für Gasbeleuchtung und Wasserversorgung (Munich) the following résumé is given of the actual work of a battery of sixty ovens, operating with local coal in the three principal mining districts of Germany.

One ton of coal produces—

District.	Coke.	Tar.	Sulphate of ammonia.
	Pounds.	*Pounds.*	*Pounds.*
Ruhr	1,672	60.5	25.3
Silesia	1,496	93.5	26.4
Saar	1,540	91.3	28.7

The yearly product of sixty ovens is—

District.	Coke.	Tar.	Sulphate of ammonia.
	Tons.	*Tons.*	*Tons.*
Ruhr	51,300	1,860	780
Silesia	48,000	3,000	840
Saar	40,500	2,400	492

The generation, consumption, and surplus of gas for one oven per day are as follows:

District.	Production.	Consumption.	Surplus.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Ruhr	32,000	19,200	12,800
Upper Silesia	36,800	20,800	16,000
Saar	32,000	19,200	12,800

So that a battery of sixty ovens, working under the above conditions, would furnish gas for their own heating and yield a surplus of from 76,000 to 96,000 cubic feet per day to be used for other purposes. It is reckoned in practice that 100 cubic meters (3,200 cubic feet) of this surplus coke gas is equivalent, for purposes of heating, to 87.5 kilograms (193.5 pounds) of coal; and the saving of fuel in working sixty coke ovens would therefore be—

District.	Per day.	Per year.
	Kilograms.	*Tons.*
Ruhr	21,000	7,560
Silesia	26,250	9,450
Saar	21,000	7,560

But, since the Otto-Hoffman oven involves, also, the use of the other appliances which require heat to the extent of one-third the amount saved in the form of gas, it follows that the actual economy in fuel is about two-thirds of the above totals expressed in coal. Add to this saving of coal the two by-products—sulphate of ammonia, worth in the market $5.23 per 100 kilograms (220 pounds), and tar, worth about 95 cents per 100 kilograms—and the enormous profits which are claimed for this system do not appear incredible.

From another, but trustworthy, source it is announced that the revenue actually derived from the tar and ammonia produced by one year's working of a group of sixty ovens in Westphalia, which cost in construction $166,000 (or $2,766 each), was $40,200, or about 25 per cent on the capital invested in the plant. The price given above does not include the cost of condensing apparatus, which, although it is not a part of the oven, is worked in connection with it.

It should not be understood from the foregoing that the Otto-Hoffman is the only highly improved coke oven in Germany which saves the secondary products. There are, in fact, several others of later construction for which their inventors claim certain points of superiority over the Otto, but the latter has been longest in use and is therefore the best known. From the known aggregate product of tar and ammonia in this country, it is calculated that there are at present in operation in the country not less than 3,000 coke ovens which save the subsidiary products, so that the 1,550 Otto ovens in operation are something more than half the entire number of all kinds in actual use.

A comparison of the results obtained by the Semet-Solvay system in Belgium with those realized by the best German ovens shows a clear advantage in favor of the latter. In the Semet ovens an intense degree of heat is generated, so that it is not found necessary to combine them with regenerators to heat the air which is to be used in combustion. They are therefore considerably cheaper in construction; but, on the other hand, the Semet requires for good results a special mixture of "fat" and "lean" coal that

is not always easy to provide, and, while the coke thus made is of a high and uniform quality, it produces much less ammonia, tar, and gas than the best German ovens, and is therefore in the end less profitable.

The direct production of benzole in the coking process is difficult, but it has been successfully accomplished during the past year by an inventor at Dortmund, whose process is thus far a secret. So far as can be ascertained, from 6½ to 15 pounds of benzole are obtained from a ton of dry coal; and, as benzole is an important element in aniline manufacture, it may be ranked among the products that will always have a standard value. The effect of the 3,000 improved coke ovens now in use in Germany and Austria has been to greatly increase the supply and reduce the market values of the by-products which they secure. Sulphate of ammonia, which, besides its uses as a fertilizer, is largely employed in making ice and in soda manufacture, was in 1883 worth $7.37 per 100 kilograms, but now sells for about $5.25; and tar has declined from $1.30 per 100 kilograms to 95 cents in the same period. Notwithstanding this decline, the profits derived from these two subsidiary products of coke manufacture are stated by good authorities to be as high as 40 per cent, all of which goes to the credit side in the general account of Germany's mining and metal industries.

But this is not all. Still another point in which the Germans secure an important advantage, especially as respects their American competitors, is in economizing the waste and coarser forms of fuel. It is conceded that Americans are masters of economy in labor, but they are extravagant with materials. In our country millions of tons of coal dust—the waste of mines, railways, and iron mills—are thrown away as useless. An official commission, after exhaustive study of the subject, has recently published the astounding information that for every ton of anthracite coal mined and marketed in Pennsylvania, 1½ tons are wasted; and the loss in bituminous coal, although somewhat less, is still enormous. In Germany, France, and Belgium all this refuse coal dust is carefully saved. Part of it is mixed with pitch derived from tar distillation and molded into "bricquettes," which are used as fuel for locomotives, stationary engines, and household grates. The remainder of this finely pulverized carbon is blown by jets of live steam into various kinds of furnaces, where it burns with almost the fierceness of crude petroleum. Coal dust from mines costs in Germany 25 cents per ton on cars, or in large quantities $2.38 per carload of 10 tons, and the care with which it is saved and utilized adds an important percentage to the fuel supply of this country. It is by this application of scientific economy to every stage of manufacture, the saving of secondary products, and the invention of new processes and machinery to work most advantageously native materials that the German iron and steel makers have been able to face without disaster the declining metal markets of the past four years.

The question may be fairly asked whether the time has not come for Americans to study far more carefully than they have studied hitherto the scientific economies of manufacture. Europeans stand aghast at the reck-

lessness with which our forests and mines and petroleum deposits are being exhausted and the soil of vast areas drained of its fertility by forms of culture which wring a yearly crop from the land, but give back little or nothing in return. There are in nearly every coal-mining district in the United States great mounds and embankments of discarded slack and coal dust which, under a better system, might be utilized as fuel; and fortunes are lost every year in the clouds of gas and smoke that rise from the coke ovens of Virginia, Pennsylvania, Ohio, and Alabama. With soda, salt, and phosphate beds in a dozen States, we import the heavy chemicals for soap and paper making and annually purchase from Europe sulphuric acids and chemical fertilizers which ought to be made at home. There is a lesson in the coke ovens and chemical laboratories of France and Germany which the economists and manufacturers of America can not study too thoroughly or too soon.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 17, 1893.*

AGRICULTURAL RESOURCES OF SALVADOR.

The chief agricultural products of Salvador are coffee, indigo, sugar, balsam, tobacco, India rubber, mora wood and rice.

Respecting indigo, balsam, India rubber, and mora wood, the exportations during the last seven years show the amounts collected, for none of those goods is used raw in the country; with regard to the rest, with the exception of coffee, only 50 per cent, or perhaps less, of the quantity produced, the rest being consumed in the country.

COFFEE.

Coffee grows in all the departments of the Republic on ground 1,500 feet (or more) above the level of the sea. The richest coffee plantations are situated in the departments of Santa Ana, Sonsonate, Ahuachapan, La Libertad, and San Salvador. Cuscatlan comes next after these, and La Paz and Usulutan follow. These last two and San Miguel will very soon export large quantities, for during the last three or four years many and important plantations have been started on the flanks of the extinct volcanoes of San Vicente, San Miguel, and especially in the mountains and highlands of Usulutan.

The preparation of the ground for a coffee plantation is quite simple. It consists merely in the partial clearing of the virgin wood that covers the mountain side and the digging of holes 1 foot square, some 15 inches deep, and 6 or 8 feet apart, in which the young trees are transplanted from the nursery. Trees two years old can be bought at nurseries, ready for planting, at from $10 to $20 per thousand. All expenses of planting one thousand trees can be estimated at $100, and their keeping and attendance during the three years following, or till they reach full maturity, at $80 or $100.

During the third year, however, the plantation produces enough to pay its expenses. The outlay for every 100 pounds of coffee ready for market can be estimated at $5 as a maximum.

The retail price of coffee in Salvador varies from 7 to 15 cents per pound.

The value of coffee plantations is calculated at the rate of 75 cents for each grown tree; but this price, which serves only as a basis for a bargain and which is often greatly reduced, includes, besides the land, farm houses and frequently beasts and all implements.

Farm hands receive 30 cents per day.

INDIGO.

The plant that produces this article (*Indigofera anil*, or *jiguilite*) grows principally in the barren, rocky soils of the departments of Chalatenango, Cabañas, and Morazan, and also in those of Santa Ana, San Vicente, and San Miguel.

After the plantation has been prepared by cutting down and burning the brush and low growth, the seed, or "mostaza," is sown and allowed to grow as best it can. The plant grows luxuriently and ripens rapidly (in September if sown in May), yielding a first crop, called "tinta nueva," or new ink, five months after the casting of the seeds on the ground. When the bush reaches its maturity, it is cut a few inches from the foot, tied during the morning in sheaves about 10 inches in diameter, and taken immediately from the field to the "obraje." This consists of a set of three "pilas," or brick tanks, placed in close proximity to one another and on different levels. The sheaves are first piled in the uppermost tank to the brim, and water is allowed to run into it till the highest bundle is covered, heavy weights being placed on the whole to avoid the falling out of any bundle during the course of future operations. The action of the water and the pressure on the green leaves and stalks of the *jiguilite* cause it quickly to enter into a high state of fermentation, and when this reaches a given degree the outlet of the tank is opened and the water is permitted to run into the second deposit just below the first. Here the greenish liquid resulting from the maceration, or rather infusion, already described is by means of long paddles or other instruments beaten in order to oxygenize it; and when this is obtained, it is made to flow into the third tank, where a maceration of a shrub known by the name of "cuaja-tinta" (ink coagulator) is added. This slowly precipitates the indigo suspended in the liquid to the bottom of the tank, and the clear water of the top is gradually allowed to escape. The "tinta" now has all the appearance of a fine soft mud of a beautiful purple color. It is next submitted to several processes in order to get it ready for market in small cakes of very light weight. The fineness of the quality of the indigo depends a good deal more upon the skill and activity of the "puntero," or manager of the elaboration of the dye, than upon the materials employed. A good "puntero" will make "tinta" No. 9 (highest grade) where a bad one can only make No. 5, or even an inferior kind.

It is generally recognized that a very large percentage of the indigo is lost through the empirical methods employed, and to avoid this the Government has made several attempts to introduce certain reforms in the manufacture of the article, which, however, have proved fruitless.

SUGAR.

Sugar cane grows in all the departments of Salvador. The amount of sugar exported is comparatively small. The greater portion of that produced is consumed in the country either in cakes or loaves of white, compact sugar weighing 25 or 40 pounds or in small 2-pound blocks of brown sugar, or "panela," which is also employed in the manufacture of native rum. "Panela" is almost equal to maple sugar. There are no sugar refineries in Salvador. The kind of sugar exported is generally known under the name of "mascabado." The mills are mostly of wood, and the work done by them is very imperfect. There are a few steel engines run by steam, and these belong to wholesale manufacturers, who export all their crops.

BALSAM.

This article is the product of the *Myrospermum salvatoriensis* or *Hoitsiloxitl*, which grows almost exclusively on the "Costa del Bálsamo," or "balsam coast," of Salvador, comprised by the southern shores of the departments of Sonsonate and La Libertad.

The balsam is a beautiful tree averaging 100 feet in height and 20 inches in diameter. There are two ways to extract the liquid, erroneously styled Peruvian balsam. The first consists in scraping the skin of the bark to the depth of one-tenth of an inch with a sharp machete in small spaces some 12 to 15 inches square all along the trunk and stout branches of the tree. Immediately after this operation the portions scraped are heated with burning torches made out of the dried branches of a tree called "chimaliote," and after this pieces of old cotton cloth are spread on the warmed and half-charred bark. By punching the edges of the cloths against the tree with the point of the machete they are made to adhere. In this condition they are left for twenty-four and even forty-eight hours (in January), when the rags are gathered and submitted to a decoction in big iron pots. After this the rags are subjected, while still hot, to great pressure in an Indian machine made of strong ropes and wooden levers worked by hand. The balsam oozes out and falls into a receptacle, where it is allowed to cool. This is called raw balsam. To refine it, they boil it again and drain it, after which they pack it in iron cans ready for market.

The other method of extracting balsam consists in entirely barking the trunk and heavy branches of the tree, a process which, as a rule, kills it outright and at best renders it useless for several years. The bark is finely ground, boiled, and submitted to pressure in order to extract the oil, which is considered of an inferior quality to that obtained by the system first described. Both methods are defective, but the latter is ruinous and is forbidden by the authorities.

The name of Peruvian balsam was given to this article because it was first sent from Salvador to Peru in the time of the Spaniards and from Callao reshipped to Europe.

TOBACCO.

Salvador produces several varieties of tobacco, which grows in all the departments of the Republic, both in the lowlands and on the high plateaus. If it were not for the carelessness of the agriculturists in the drying and final preparation of the leaves, there is no doubt that the very best qualities could be obtained. Farmers allow the leaves of the plant to be dried in the sun when still adhering to the stalk, which they cut about 2 inches from the ground. After submitting the plants to the combined action of the sun during the day and the heavy dews of the night till they are dry, they pile them in round blocks some 6 or 10 feet in diameter and 3 feet high, called "prensas," on top of which they place heavy weights and cover the whole with a thick layer of dry banana leaves. Fermentation ensues, the pile becomes quite hot, and the leaves acquire color and aroma. After several hours the block is put apart, the tobacco is aired, and the leaves are picked from the stalks, sorted, and tied in bundles averaging 1 pound ready for market. Many attempts have been made to introduce the Cuban method of preparation, but it has been impossible to induce the planters to adopt it.

Of all the tobacco produced in the country only one-sixth part is, at most, exported; the rest is consumed in cigars and cigarettes by men, women, and children. The natives do not smoke pipes, chew tobacco, or use snuff.

INDIA RUBBER.

The tree that produces this gum grows wild in the woods that cover the low, marshy plains of the departments of La Paz, Usulutan, San Miguel, and La Union. No India-rubber trees have been planted in Salvador, though the authorities have made repeated efforts to induce farmers to plant them. The methods observed in extracting the gum are similar to those employed in the rest of Central America.

MORA WOOD.

Mora-wood trees, which produce the well-known yellow dye, grow in the departments just mentioned above, but only the woods of La Union are in actual exploitation.

RICE.

This grain is cultivated in the same fields where corn or sugar cane grows, and, contrary to what happens in other countries, it does not prosper at all in low, marshy soils. Rice fields are quite common on dry hilltops and on the steep slopes of mountains.

OTHER PRODUCTS.

Indian corn, wheat, potatoes, beans, and vegetables of a great variety grow perfectly well in the country. Farmers do not understand the use of

fertilizers. They till the soil in the most primitive manner, and when, on account of the exhausted condition of the ground, the crops are greatly diminished, they allow the land "to take a rest" and cultivate a new field. The plows, hoes, and other implements of agriculture are entirely out of date, and the introduction of new ones is extremely slow.

G. J. DAWSON,
Acting Consul.

SAN SALVADOR, *June 17, 1893.*

TRADE OF TRINIDAD.

I submit the following observations and tables in respect to the trade of this island, showing the American trade as compared with that of other countries in 1892 as against 1891.

The population of the island is a very mixed one, and, though a certain percentage of it lives in a high degree of comfort and probably consumes per capita about as much general merchandise as the more prosperous element of people in our Gulf States, the people here, as a rule, both on account of climate and habits, probably consume less than the colored population of those States. Coolies (East Indians and their descendants) compose about 35 per cent of the population, and these live much more economically than the negroes. According to the census taken April 5, 1891, the total population was 200,028—an increase of 46,900, or 30.6 per cent, on the population as shown by the census taken April 4, 1881. The last census does not separate white and colored, but it is believed that the people who are of European descent exclusively would not exceed 5,000.

The following quotation is taken from the last census return:

> The commercial class numbers 4,377 persons—3,843 males and 534 females—and includes 430 merchants, agents, and dealers; 2,283 salesmen, shopmen, and clerks undefined; 239 accountants, bookkeepers, commercial and writing clerks; and 1,425 shopkeepers.

As I am frequently requested by American merchants to furnish the names of dealers in particular branches of trade, I submit for general information a list of the principal importers:

Dry goods, furnishing goods, and miscellaneous articles.

PORT OF SPAIN.

Wilson, Son & Co.	Pedro Prada.
Miller Brothers.	Wilson & Co.
George Goodwille.	John Hoadley.
J. R. Metiver & Co.	James Skeoch & Co.
Glendenning & Hendy.	Smith Brothers & Co.
Pereira & Co.	F. L. Johnson & Co.

SAN FERNANDO.

Cunningham, Thompson & Co.
L. W. Bonyun & Co.
Grecian Donaeva.
Mr. Morehead.
J. Dalgliesh & Co.
J. Alston & Co.
Mr. Gopaul.

General importers of breadstuffs, plantation supplies, oils and general grocery supplies, etc.

PORT OF SPAIN.

A. Cumming & Co.
Gordon, Grant & Co.
The Colonial Company (limited).
Schoener & Co.
T. A. Finlayson & Co.
George R. Alston & Co.
André Guiseppi & Co.
F. E. Scott & Co.
Turnbull, Stewart & Co.
Julian H. Archer & Co.
Rust, Trowbridge & Co.
J. N. Harriman & Co.
Llanos & Co.
J. Anduze & Co.
Edgar Tripp & Co.
Schjolseth & Holler.
Muir Marshall & Co.
Croney & Co.
Haynes & Co.
George Spiers.
C. L. Haley & Co.
A. Yuille & Co.
C. Schock & Co.
Lee, Lum & Co.
J. A. Rapsey.

SAN FERNANDO.

Tennant's Agency.
P. Leoland & F. Knox.
C. Brown.
Turnbull, Ross & Co.
W. S. Robertson.

Boots and shoes, trunks, hand bags, etc.

PORT OF SPAIN.

Wilson & Co.
Miller Brothers.
Vincent & Co.
George Goodwille.
Dunn & Co.
Pedro Prada.

Hardware, etc.

PORT OF SPAIN.

Arnott, Lambie & Co.
Leon Mathieu & Co.
Hunter & Co.
Gerold & Sherer.
James Todd & Sons.
F. Urich & Son.
George Fitz William & Co.
Nestor & Co.

Drugs, chemicals, perfumery, etc.

PORT OF SPAIN.

W. C. Ross.
Jean Petersen.
P. A. Ramsey.
A. E. Boland.
C. O. Bock.
A. L. Innis.
A. G. de Silva & Co.
Alfred Richards & Co.

SAN FERNANDO.

Mr. Bonyun.
Mr. Laing.

Glassware, crockery, etc.

PORT OF SPAIN.

ld & Sons.	Leon Mathieu & Co.
;.	

Jewelry, watches, clocks, plated ware, etc.

PORT OF SPAIN.

ld & Sons.	Traverso & Perez.
x.	A. Decle, sr.
jr.	Barcant Brothers.

Stationery, books, fancy articles, etc.

PORT OF SPAIN.

hall & Co.	James Todd & Sons.
& Co.	

Furniture, pianos, musical instruments, etc.

PORT OF SPAIN.

thers.	Smith Brothers & Co.
ld & Sons.	H. Strong.
eaux.	

above classification is not of a strict character, but in a general way ·ect.

value of the native products of Trinidad exported in 1891 aggregated 127, and in 1892 aggregated £1,589,108. But the exports of the xceed its native products by several hundred thousand pounds ster- ort of Spain (the capital) is an entrepôt, as it were, to the rich country in Venezuela, the produce of which enters largely into both ort and export trade of the island. The custom-house records, in meet the requirements of the trade, divide the imports into "transit " and "direct imports," and divide the exports into "transit ex- "exports of native products," and "reëxports." The "transit" and "transit" exports are such as have never fully passed the custom- ut, being dutiable, have remained in bonded warehouse or elsewhere istom-house supervision; the "reëxports" are imports which passed om-house free of duty and are subsequently exported.

trade of the island with the United States for 1891 and 1892, as d with the total trade of the island for those years, is as follows:

Description.	1891.		1892.	
	Imports.	Exports.	Imports.	Exports.
es.....	£422,190	£736,345	£456,982	£811,032
.....	2,096,797	2,058,761	2,089,380	2,258,063

The imports in general from the United States, as compared with the same from other countries, are shown by the following table:

Countries.	Imports in 1892.		Comparison of imports in 1892 with 1891.*			
	Bullion and gold and silver coin.	Total imports.	Increase.	Decrease.	Increase.	Decrease.
					Per cent.	*Per cent.*
United States	.....	£456,982	£36,292	.....	8.6	.....
United Kingdom	£800	759,539	.....	£9,679	.....	1.3
British colonies	520	239,550	3,166	.....	1.3	.....
France	10	92,175	.....	26,616	.....	22.1
Venezuela	170,864	398,892	74,937	.....	48.9	.....
All other countries	56,159	142,242	.....	10,608	.....	11
Total	228,353	2,089,380	114,395	46,903	.....	.....

* This is exclusive of bullion and gold and silver coin.

The imports in transit from the United States, as compared with the same from other countries, is set forth in the following table:

Increases and decreases of imports, exclusive of bullion and gold and silver coin, landed for exportation and constructive transshipment in 1892 as compared with the same in 1891.

Countries.	Increase.	Decrease.	Increase.	Decrease.
			Per cent.	*Per cent.*
United States	£9,457	.....	47.9	.....
United Kingdom	.....	£43,744	.....	56.1
British colonies	.....	1,485	.....	27.7
France	.....	6,349	.....	40.4
Venezuela	812	.....	20.8	.....
All other countries	.....	2,052	.....	9.8
Total	10,269	53,630	.....	.....

It will be observed that the heaviest decrease in transit goods fell on the United Kingdom. This was due chiefly to a falling off of textiles. In direct imports the United Kingdom made a gain of 4.9 per cent.

The two tables, which are compiled from official papers, are apt to convey an erroneous idea of the imports from Venezuela. According to the records as kept, the direct imports have increased more than the transit imports from Venezuela; but, as Venezuelan cocoa pays no duty, a great quantity of it is annually imported direct and passed through the custom-house, and subsequently exported from the island, which makes it substantially the same as "goods in transit."

The following table will give a good idea of the export trade to the United States:

Description.	United States.	United Kingdom.	British colonies.	France.
Exports of 1892:				
Bullion and gold and silver coin	£10,836	£234,842	.....	£2,100
Total	811,032	793,482	£48,329	277,318
Increases and decreases, exclusive of bullion and gold and silver coin, in 1892 as compared with 1891:				
Transit exports—				
Increase	1,352	2,258	.....	2
Decrease	.....	.....	203	.....
Exports of the product of the island—				
Increase	36,628	74,837	.....	110,295
Decrease	.....	.....	5,289	.....
Exports of goods which had been duly imported past the custom-house—				
Increase	80,737	12,767	.....	.....
Decrease	.....	.....	16,267	10,189
Total exports—				
Increase	118,717	89,862	.....	100,108
Decrease	.....	.....	21,759	.....

Description.	Venezuela.	All other countries.	Total.
Exports of 1892:			
Bullion and gold and silver coin	£3,964	£1,044	£252,786
Total	198,650	129,252	2,258,063
Increases and decreases, exclusive of bullion and gold and silver coin, in 1892 as compared with 1891:			
Transit exports—			
Increase	.....	.....	3,612
Decrease	49,150	481	49,834
Exports of the product of the island—			
Increase	674	14,836	237,270
Decrease	.....	.....	5,289
Exports of goods which had been duly imported past the custom-house—			
Increase	25,295	10,324	129,123
Decrease	.....	.....	26,456
Total exports—			
Increase	.....	24,679	333,366
Decrease	23,181	.....	44,940

The net decrease in the value of exports in transit, amounting to £46,222, was due, it seems, almost entirely to the decline in the transit exports to Venezuela. The item of textiles contributed £39,700 to this decline.

The great increase (£110,295) of native products to France was caused by increased shipments of Trinidad cocoa to that country.

The heavy increase (£80,737) of "reëxports" to the United States was caused by increased exportations to the United States of Venezuelan cocoa and tonka beans.

The increased exports (£36,628) of native products to the United States was due to increased shipments of all the chief native products except sugar and molasses, as the following table will show.

Exportation of the principal native Trinidad products to the United States and to all countries.

Articles.	1891.		1892.	
	United States.	All countries.	United States.	All countries.
Sugar	£450,462	£662,789	£386,905	£675,342
Molasses	150	53,492	58	57,599
Asphalt:				
Raw	75,025	85,958	89,699	102,813
Épuré	1,842	20,003	516	18,818
Bitters	15,060	35,764	20,285	42,554
Cocoa	110,254	439,786	191,010	648,103
Cocoanuts	2,339	46,663	3,007	34,424

The above table shows that the transit imports from the United States not covered by the reciprocity agreement increased proportionately to a much greater extent than the direct imports from the United States which were covered by the agreement, and that of the five chief products of the island the exports to the United States of only two of them were decreased, and those two were sugar and molasses, from which import duty in the United States was removed by the act of October 1, 1890.

In this connection the following table of imports from the United States may be studied with interest. It should be remembered, however, that the reciprocity agreement went into operation here January 9, 1892, and these tables compare the trade of the calendar year 1892 with that of 1891.

Imports from the United States.

Articles.	Quantity.		Rate of duty.	
	1891.	1892.	1891.	1892.
Bread ... barrels	29,249	32,591	1s. 6d. per barrel	9d. per barrel.
Butter ... pounds	78,550	129,188	1d. per pound	1d. per pound.
Coal and coke ... tons	3,355	2,876	Free	2s. per ton.
Carriages:				
4 wheeled ... number	9	17	£7 each	£7 each.
2 wheeled ... do	.....	2	£4 each	£4 each.
Cheese ... pounds	202,529	239,965	1d. per pound	1s. 2d. per pound.
Corn of all kinds, including oats ... bushels	85,516	53,036	5d. per bushel	3¾d. per bushel.
Earthenware and glassware	£696	£652	4 per cent.	6 per cent.
Furniture	£2,944	£2,988	...do	Do.
Flour ... barrels	113,522	130,953	3s. 4d. per barrel	3s. 1½d. per barrel.
Lard ... pounds	982,075	1,080,493	3s. per 100 pounds	1s. 6d. per 100 pounds.
Meal or other flour, not wheaten ... barrels	6,477	5,460	2s. per barrel	1s. 6d. per barrel.
Muskets, guns, and pistols ... number	1,166	1,316	5s. each	5s. each.
Malt liquor in wood ... gallons	1,417	1,678	6d. per gallon	7½d. per gallon.
Oleomargarine ... pounds	11,171	167,826	1d. per pound	Half a penny per pound.
Kerosene oil ... gallons	335,142	411,714	1s. per gallon	9d. per gallon.
Tobacco:				
Unmanufactured ... pounds	553,440	551,337	1s. per pound	1s. 1d. per pound.
Cigars and cigarettes ... do	2,008	2,405	3s. per pound	5s. per pound.

Imports from the United States—Continued.

Articles.	Quantity.		Rate of duty.	
	1891.	1892.	1891.	1892.
Textiles, wearing apparel, and haberdashery	£4,594	£5,135	4 per cent	6 per cent.
Shooks ... bundles	11,232	13,808	7*d.* per bundle	1*s.* 6*d.* per bundle.
Staves ... number	126,600	246,876	12*s.* per 1,000	6*s.* per 1,000.
Horses ... do	29	63	Free	Free.
Mules ... do	271	340	... do	Do.
Pease	£7,129	£3,276	... do	Do.
Plants	£294	£289	... do	Do.

NOTE.—A few articles imported for the Government and churches are not included.

There are some important imports from the United States not embraced in the above table, because the tariff designations in 1891 and 1892 were different and no comparison could be made.

WM. P. PIERCE,
Consul.

TRINIDAD, W. I., *June 20, 1893.*

CHINESE CURIOS.*

A practically untouched field is the importation into the United States of the curios, works of art, household ornaments, and decorations for which the people in this part of China are famous. Among those worthy of comment are:

(1) Tea-root figures. They are charming or grotesque figures made from gnarled roots of tea plants and other trees. The commonest form is that of a monk in a ludicrous attitude talking to a bird. Their cost varies with their size and beauty and ranges from 30 cents apiece upwards. The more expensive designs comprise groups of figures or statues of life or even heroic size. At one dealer's in Amoy is an image of this class 9 feet high and weighing over 5 cwts. It is finely carved and is held for $130, the highest price asked for such goods.

(2) Soapstone carvings. These come from the back country, where there is an extensive magnesian formation of every color and combination. The steatite is cut into statuary, paper weights, soap dishes, toothbrush-holders, tobacco boxes, etc.

(3) Arms and armor. There is any amount of ancient weapons, as well as of new, in the local markets. Hand arrows, double-bladed swords and daggers, helmets, shields, spears, halberds, and poleaxes are among the common kinds. They are very cheap, each ranging from 50 cents upwards. Imitations are still cheaper, costing less than half as much.

(4) Embroideries. These are inferior only to the celebrated goods of Canton, but are very brilliant, beautiful, and cheap. They are of all kinds,

* A former report by Consul Bedloe on this subject was published in No. 147, p. 489.

from pieces to be framed to lambrequins, sofa, upholstery, and wearing apparel. They cost about one-fourth the price of French and German embroideries and are much more durable. One kind is particularly ingenious, consisting of embroidered figures backed with stout cloth or board and padded so as to produce a relief of an inch or two from the plane of the picture. The popular variety is nearly life-size. Its cost, considering the great amount of work expended, is very reasonable, ranging from $2 to $10 a design.

(5) Swatow porcelains and kaolin ware. They come from the district of Chow-chow-foo, where there is a splendid deposit of kaolin, and are remarkable for their strength, whiteness, and translucency. In design they are legion, including ornaments, garden furniture, household goods, wall decorations, and table ware. Their cost is a trifle less than the cheapest Japanese pottery of similar type.

(6) Artistic dolls and toys. They are small and wonderfully cheap. Those 2 and 3 inches high wholesale for 25 cents per dozen.

(7) Wood carvings, paper flowers, boys' toys, and other articles of minor importance.

(8) Pictures made from paper basket work. The designs are stenciled upon the cloth, and the colors are filled in by tinting the little squares.

(9) Formosa fans. These are made from a heavy palm leaf and decorated with figures scorched in by hot iron or painted with corrosive fluids.

(10) Fuchau and Taiwanfoo filagrees. These are made with admirable skill and are equal to the finest Maltese, Italian, and Parisian work, but much less costly than the latter.

(11) Fuchau lacquer ware. This is among the best, if not the best, extant. It is, however, rather expensive and, if imported into the United States, could be purchased by only the well to do. Its beauty and finish are famous throughout the far East.

(12) Shellwork. Nothing, not even the shells of the sea, goes to waste in the extreme Orient. Life is too fierce. Everything, no matter how humble, is utilized in some way. Thus, for example, nearly every form of shellfish is used for food. After the extraction of the living organism the shells are not thrown away, as in the western world. Some are reserved for the button-maker; others for the glue-boiler. At least a dozen industries are supported by what we would call the refuse of shells. When these industries have exhausted the raw material, what remains is sold to the lime-kiln and the kitchen gardener. There are few, if any, shell mounds in the Flowery Empire. One family of univalves (the *Strombus*) is used for making fish horns, toy trumpets, war horns, and the like. The animal is extracted and sold in the market. The shell is boiled, scraped, and dried and the minor apex or spindle cut off at an obtuse angle with the axis of the warped surface. The resultant shape is a success so far as the production of noise is concerned. As a musical instrument it is a dire failure. The toy trumpets emit squeaks which may please the juvenile ear,

but not any other. The fish horn is on a par with the tin monstrosities with which Christmas is celebrated. The war horns, heavy and awkward, give a hollow roar, more like the bellow of a stray calf than a call to glory. All of these implements of dissonance are durable and cheap. You will see fish horns which have been used by father, son, and grandson, until the rough exterior has been polished by years of handling into a pearly enamel. In the country districts the farmer's wife uses it to call her husband home, and the herdsman to attract a lingering or straying charge. In ancient times the shell war horns were in common use. Military progress has replaced them with brass, especially on the coast. In the far interior shell horns are still employed. Another and ingenious way of using shells is as buttons, sleeve links, and hairpin heads. For this purpose a small shell is employed, ranging from one-fourth of an inch to an inch in diameter. It is cleaned and polished and half filled with molten solder. Before the metal cools a wire loop or hairpin is inserted in the middle of the molten mass. The loop becomes the shank of the button, which is strong, neat, and very attractive. The shells employed are all members of the *Cypræa* family, the most common being the cowrie, or *Cypræa moneta*. The cost of the buttons ranges from 20 to 90 cents per dozen. Sometimes the wire loops are of silver, and then the prices are, of course, considerably higher. More ingenious are the shell cups, saucers, and spoons made from the larger types of tropical univalve shells. The finest specimens come from the southern Philippines, and the next from Borneo, but good ones are found in the Pescadores and Formosa. It would seem as if the original idea was Malayan, and that the other races of the Orient were merely imitators. In making cups and saucers the conchs are sawed through in about the same manner as cocoanuts are when intended for dippers. They are cleaned and polished, and the convex surface ground slightly so as to rest on a table without spilling or tilting. The spoons are made by sawing the round superior surface of the conch at such an angle as to partially intersect the spindle or major axis. This becomes the handle of the completed spoon. According to the size of the shell, the result is a dessert spoon, tablespoon, or a ladle capable of containing a quart. The interior is of a rich sulphur, salmon, orange color or a pearly luster. It has no angles where dirt can accumulate and is about the handsomest natural spoon I have ever seen. They stand heat and cold well, but are attacked by vinegar, lemon juice, and other acid substances. The best market in which to obtain them to-day is Cebu, in the Philippine Islands. The largest industry is the cutting of beads, buttons, studs, and other small articles from shells of a high luster. There are some fifty species which are utilized in this manner, of which the Chinese mussel and oyster are the most prominent. One variety gives a black, blue, and white button similar to the cat's-eyes of Ceylon, and named after these Amoy or Canton cat's-eyes. A second variety is of a pale fawn ranging to translucency, called white cat's-eyes. A third is half an inch in diameter and resembles light-brown onyx. The black and white

cat's-eyes are used for bracelets, necklaces, ladies' dress buttons, and also as dress ornaments similar to pearls. The balls are strung and used as necklaces, bracelets, earrings, and rosaries. Though apparently fragile, they are really tough and very durable. Their price depends upon some inscrutable Chinese rule and varies from half a cent to 5 cents apiece. Even at the higher figure they are about the cheapest artistic decoration we have in the East. When mounted as buttons, the black cat's-eyes are a notable ornament to a black silk dress. The gradations of color are brought out into fine relief, and the suggestion of blue which runs through the shell gives a color to the somber silk that is very pleasing. The best effect is when they are sewed closely together in double lines upon a vest or waist, when they seem to be a fine and brilliant stripe. A queer way of setting both cat's-eyes and onyx balls practiced by the Chinese consists in alternating them with small carved fruit stones. It is rather attractive as an oddity, but the lack of color deprives it of any æsthetic value.

(13) Pictures mounted as wall banners or screens.

(14) Rice-paper pictures for illustrating books or for kindergartens.

(15) Statuary molded from clay, papier-maché, rice paper, plaster gum, or other plastic materials. They are numberless and extremely cheap.

(16) Carved jade, ivory, obsidian, and coral. This class of goods is very popular and brings high prices. Jade is the favorite. A small carving of this stone seldom costs less than $25.

(17) Antique bronzes, gold bronzes, and inlaid bronzes.

(18) Modern and ancient silverware. Silver is to the Orient what gold is to the West. To the artist, the scholar, and the collector it is the king of all the precious metals. Its popularity is not due to its cheapness. Jade, which rivals silver in public esteem, is much more expensive than gold. There may be another reason for the small use of gold as an ornament by the Chinese. In designation of rank and title a gold button stands at nearly the bottom of the list. Then, on the other hand, yellow golden is the imperial color, and none but those around the Son of Heaven are allowed to use it for wearing and other purposes. Silver jewelry and curios in China are universal. The poorest coolie's wife has usually argent bracelets and earrings. In curios and bric-a-brac the number of silver articles is legion. The greatest manufacturing center is Canton; but Amoy, Fuchau, Nanking, and Peking possess artists and guilds whose workmanship is famous over the Empire. Hours may profitably be spent in studying the designs of these Eastern artificers. One class of these consists of miniature reproductions of features of daily life and is adapted for earrings, watch charms, pendants, and bangle attachments. Among the more familiar objects are the pagoda, sampan (or native boat), junk, the sedan chair, the small-footed lady's shoe, the Goddess of Mercy, the Celestial Poodle, the King of the Fishes, the sitting Buddha, the dragon, the flying serpent, the begging bonze, the tiger, lion, horse, pig, buffalo, elephant, turtle, crocodile, monkey, cat, and dog. The largest does not exceed 2 inches in length; from this size they diminish

to dainty little objects no larger than a grain of corn. The work and finish are admirable, the features and hair of the human beings and animals, the scales of the fish and crocodiles, and the marking of the turtle's carapace being reproduced with the highest care and skill. Another class consists of imitation cordage. The metal is solid, but the surface is so cleverly wrought out that at first sight each piece seems a rope, crocheted cord, or braid. Some are as fine as sewing silk, while others are as thick as clotheslines. The silver is alloyed with a small percentage of copper to increase its hardness and to allow the fine carving and graving impossible in the softer substance of pure silver. These silver cords are used for bracelets, anklets, necklaces, belts, sword hangings, and horses' harness. Though stiff, they are not rigid and can be bent in every direction. They may be made into knots and united without breaking. A third class comprises household ornaments, such as match boxes, ash cups, joss sticks, bowls, sandalwood urns, plates for opium pipes, button boxes, and so on without end. It is of the same general type and about the same value as those made in America and Europe. A fourth class includes filagree work and tissues made from fine silver wire, and is marked by the highest skill and beauty. It is a favorite kind of work among the Chinese and has been for centuries. There is but little doubt that Marco Polo brought specimens of it to Europe from Nanking and in this manner aided in the after development of the guilds of Italy and France. The designs at times are simply marvelous. One from Fuchau consisted of a bouquet, over which was loosely wrapped a silken veil. It was so perfectly made that the veil looked as if it might blow away at any moment. Through its filmy folds the flowers and leaves were all visible. Another artistic gem was a little bouquet in which ferns, lilies of the valley, and similar botanical beauties were perfectly photographed in metals. A custom of the Chinese trade deserves mention. In selling his goods the Mongolian merchant in silverware gives the weight of the metal, its fineness, and its value as bullion; and then as a separate item the cost of the workmanship. Thus one day, in purchasing a pair of corded bracelets, my bill ran as follows: Silver (4½ ounces 85 per cent fine), $4.20 (Mexican); workmanship, $2.15; total, $6.35 (Mexican). The first item is mathematically correct and can be depended upon as the intrinsic value of the material used in its manufacture.

(19) Odd jewelry. The Flowery Kingdom is full of oddities and novelties to the newcomer from Christendom. The first thing that attracts his attention on landing at Shanghai or Hongkong is the queerness and the quantity of jewelry worn by Chinese women in their hair. It varies from place to place, so that a careful student after a little experience can tell where a woman comes from by simply looking at the ornaments on her head. There are first the purely decorative pins, which suggest knitting needles or fashionable hat pins. The finest kinds are made of gold; below these are silver ones, and below these, for the poorer classes, are brass ones tipped with either of the precious metals. In addition to metal, ivory, ebony, horn, tortoise shell, bamboo, and celluloid are largely employed for the

same purpose. The head of the pin discloses the wealth of the wearer. The wife of Hou Qua, the Canton banker, had a pin whose head was an immense diamond. The wife of the viceroy of Fokien has one which terminates in a large ruby. Pins of this sort are worth thousands of dollars. In this class come a large number of pins whose heads are emeralds, pearls, jade pieces, gold balls or figures, and silver designs. They can be bought for a few cents when the shank is of brass and the head an imitation of jade or for a few dollars when the metal is silver and the end a cheap semiprecious stone. In another class the pin terminates in a cluster of some sort. There seems no limit to the designer in this field. The cluster may be seven jade stars suspended or supported by fine wires; it may be a group of blue cat's-eyes representing a bunch of grapes, a row of pearls swinging from minute chains, a knot of exquisitely colored tiny porcelain flowers and fruits, a lot of turquoises carved into violets, a *boutonnière* of buttercups in filmy gold leaves. In a third class the shank and head are separate, but connected by a coil of wire. This keeps the head in perpetual motion and tends to "show it off." This contrivance is rarely seen outside of Fuchau and Amoy. In addition to the other styles referred to, the heads are made also of flake jade, cut to represent long leaves and similar shapes, porcelain butterflies, gold and silver moths and dragon flies, little birds in metal, vines, and whatever in nature is easily moved by the wind. Chinese women are as eager for these pins as European women are for finger rings. They will economize a year to buy a new one, and take a particular delight in owning many. The proprietress of a Hongkong sampan (or passenger boat) is the envied possessor of over one hundred of these precious instruments that are said to represent nearly $3,000 in value. Yet she lives in her boat and seldom makes a dollar a day. The hairpin in the East, unlike that in the West, is generally of silver or gold. It is a thin bar slightly flattened, waved, and corrugated, in order to get a grip, and is usually straight and 6 to 8 inches in length. Its owner bends it according to the style in which she dresses her hair. Sometimes it is bent into a C, displaying 4 inches of metal. At other times it is bent into a V and shows a mere yellow point among the black tresses. The gold and silver smiths make special alloys for hairpins. Ordinary ones would break after a few score of bendings and unbendings. These, however, last a lifetime. On account of their form and corrugations, they seldom fall from the head and are scarcely ever lost. They are worn night as well as day, and are only removed in the morning when their owner performs the slow and complicated operations of washing and drying her locks. Everyone above the extremely poor in China is the owner of a tongue-scraper. They may or may not have brushes, but they are sure to possess a tongue-scraper. It is a ribbon of silver or gold with a ring at one end, by which it is suspended when desired. The cheapest are of plain metal, more expensive ones are engraved, while a few are jeweled at either end. Like hairpins, they are sold by their weight, plus a small charge for the workmanship. Thumb rings are very common in the East. They are

often made of precious metal, ivory, jet, and semiprecious stones, but generally they are of fine jade. The cavity is not cylindrical, but swells out at the base and middle. This enables the owner to wear it lower down, and also prevents its slipping. Celestial dudes often use rings so high as to pass the middle joint of the finger and so produce a partial stiffening thereof. The jade is usually polished, but may be engraved or carved in intaglio or relief. The *nouveaux riches* jewel the jade, but this is considered as the height of vulgarity by the refined classes. The latter use jade exclusively and as precious a variety as their purses will permit. Would-be fashionables and, singularly enough, village bullies wear imitations, which are made of glass or porcelain colored with lead or iron oxide. One variety, which is made by enameling iron, is remarkably strong and durable and corresponds to the "knuckle-dusters" of London thieves. The thumb ring seems to have come into vogue in the time of the Three Kingdoms, during the régime of the famous general Kwang-Ti. He was a sort of Robin Hood with the long bow, and, to increase his accuracy, substituted a heavy bamboo thumb ring for the glove usually worn by archers. His example was followed by his bowmen until the practice became general. On his rise to power his admirers presented him with a jade ring of high value, which he substituted for the bamboo one. His brother, the reigning monarch, adopted the custom out of compliment to the great warrior, and thus introduced the fashion into civilized society. The custom fell somewhat into abeyance in the following centuries, but was revived with greater force by the Manchus in their conquest of the Empire. They were particularly skillful with the bow and always used the thumb ring in shooting. After they became supreme they continued the custom as a reminder of their victories, just as they continue the use of the cavalry boot and the horseshoe sleeve. Luck pieces are of constant occurrence. They are the Chinese character for the word "Fook," meaning good luck or happiness, and are made from jade or the precious metals. They are worn as watch chains, pendants on necklaces, bracelets and rings, ornaments to tobacco pouches and spectacle cases, or as a decoration pure and simple. Jade buckles are another jewel of great value. They are nearly always handsome carvings and are fastened to the belt, which they are supposed to clasp. They are a necessary part of a gentleman's outfit. Wealthy mandarins have as many as the colors and textures of their suits. They are never cheap and are sometimes very costly. The present taotai of Amoy has one valued at $1,000. It represents two interlaced dragons and is said to be four centuries old. In Canton they are the subject of a special industry.

All of these wares would find a ready sale in American stores. Their novelty, attractiveness, and cheapness would give them an immediate welcome. They would make an admirable feature in such stores as fancy goods, house furnishing, art, and notions. The best concern in Amoy with which to enter into negotiations is Ching Gong Frayne & Co.

EDWARD BEDLOE,

AMOY, *May 9, 1893.* *Consul.*

CANADIAN AND AUSTRALIAN STEAMSHIP LINE.*

A spirited effort is being made to establish a new steamship and telegraph line between British Columbian and Puget Sound ports and the port of Sydney, Australia, via Honolulu. The enterprise was first suggested a year or more since by the Victoria (British Columbia) Board of Trade, but no practical steps were taken by that body to carry it out. Later it was taken up by Mr. James Huddart, of Sydney, who secured two steamers—the *Miawera* and the *Warrimoo*—with a view of opening up the trade. The engagement is to furnish a monthly service between Sydney and Vancouver, British Columbia, until such time as the increase in business will justify more frequent trips.

The objects to be accomplished by the new line are twofold: first, to open up and develop trade between these widely separated and differently constituted countries; second, to bind the provinces together in business relations, and, finally, to attach them more firmly to the mother country by these same ligaments of commerce, and thus aid in solidifying the British Empire and in concentrating its vast energies within its own lines of communication and over its own territory so far as that may be possible.

It is claimed that the new line will be able to compete successfully with all other routes; that it can and will shorten time between Sydney and the American Pacific coast by several days; that it will shorten time to London by a week or more; and that it will almost wholly avoid the excessive heat and other discomforts of the Suez Canal route.

The experimental trip was made by the *Miawera*. She left Sydney May 18 and Brisbane on the 20th, arriving at Victoria, British Columbia, at 9:30 p. m. June 8, thus making the run from the former in twenty-two and from the latter in twenty days. In comparison it is stated that the *Alameda*, one of the best steamers of the San Francisco line, left Sydney May 15 and arrived at San Francisco June 8, thus consuming three more days of time. She called on the way at Auckland and Honolulu, and the *Miawera* called at Brisbane and Honolulu. The distances of the two services are as follows:

Sydney to Auckland, 1,281 miles; Auckland to Honolulu, 3,810 miles; Honolulu to San Francisco, 2,100 miles; total to San Francisco, 7,191 miles.

Sydney to Brisbane, 502 miles; Brisbane to Honolulu, 4,191 miles; Honolulu to Vancouver, British Columbia, 2,435 miles; total to Vancouver, 7,128 miles, being 63 miles shorter than the other route.

The San Francisco line includes a call at Samoa, and the Vancouver line will probably call at Fiji, in which case 143 miles will be added to the distance; and a detention of a few hours at Suva, the chief port and capital of the colony, will be unavoidable.

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* See on this subject No. 154, pp. 328–337.

The sailing of the *Miawera* from Sydney was an event marked by the attendance at the wharf of the board of trade, the principal officers of the province and city, and of prominent citizens. "As the ship drew off into the stream," says Mr. F. W. Ward, who represents the owner on board, "the crowd which packed the wharf from end to end gave three hearty cheers." The ship had a like reception at Brisbane, where the premier of the province and other prominent citizens took lunch with Mr. Ward on board and bade him farewell.

The arrival at Victoria, British Columbia, was anxiously awaited, and when it was announced the members of the board of trade and a deputation of leading merchants met the ship at the outer wharf and presented the following address of welcome:

To James Huddart, Esq., Managing Owner of the Australasian, Sandwich Island, and Canadian Steamship Line:

We, the president and members of the British Columbia Board of Trade, beg to congratulate you on the *Miawera's* safe arrival at the port of Victoria.

The arrival of the first steamship of an Australasian line is an event of more than ordinary importance both to Canada and the Australasian colonies. This initial trip will, we hope and believe, be the inauguration of a continuous direct postal, passenger, and trade communication between the two countries which will be profitable to both, and which will not be without its influence in bringing about a close union between all parts of the British Empire. The establishment of a short route between Great Britain and the Australasian colonies, the land section of which is wholly within British territory, can not but be conducive to the furtherance of imperial interests.

When the steamship line is supplemented, as it is certain to be, by an ocean cable between Canada and Australasia, the facilities for a profitable intercourse between the two continents will be so greatly increased that the success of this enterprise, now so happily inaugurated, will be assured. The possibilities of a regular and direct trade with Australasia are so great that we look forward to the time when the freight and passenger traffic of the new line will be such as to make weekly trips a necessity.

We sincerely trust that no effort on the part of either governments or individuals will be spared to promote the objects for which your line was established, and we assure you that we will consider it a pleasure to do all in our power to further the interests of the Australasian, Sandwich Island, and Canadian Steamship line. Victoria welcomes most heartily its pioneer steamship—the *Miawera*.

Signed on behalf of the board,

T. B. HALL,
President.
F. ELWORTHY,
Secretary.

VICTORIA, *June 8, 1893.*

The *Miawera* is a single-screw, three-masted, schooner-rigged steamship of 3,345 tons measurement and 5,000 tons dead-weight capacity, with a trial speed of 17 knots. She has three decks; carries six life boats, a cutter, and dingy; is lighted by electricity, and carries a second engine to provide against the emergency of the failure of the first, which is of 4,700-horse power. Her dimensions are: Length, 360 feet over all; breadth, 42 feet; depth, 28 feet. There are extra fresh-water tanks, 50 state rooms, and the

second cabin is designed to carry 100 persons. An important feature of her freight arrangements are two refrigerating chambers for the preservation of meats, fish, poultry, fruits, etc., during the tropical portion of her voyage.

This first, being an experimental trip, the cargo was composed in large part of samples. That part of it from Australia consisted principally of frozen mutton, oranges, lemons, pineapples, bananas, wine, casks of beef, sugar, butter, jams, and arrowroot. From Honolulu came bananas, pineapples, and melons. Most of these goods have been distributed to the American ports on the sound, to the chief cities of Canada, and a portion has been forwarded to London. The quality of all these products is pronounced first class, and the Honolulu fruit especially is enthusiastically praised. "The best we ever tasted" is the universal verdict. When it is remembered that the fruits received here from San Francisco are usually the cullings of that market, this enthusiasm may be reasonably pardoned.

On June 14 the *Miawera* left this port on the return trip to Sydney. Her cargo consisted principally of pitch, laths, shingles, salt fish, fresh fish, and dried lumber. This portion was destined for Australia. She also carried to Honolulu 500 barrels of lime, 4,000 bundles of laths, 10,000 pounds of fresh fish, 4,260 bunches of shingles, 843 fruit crates, pitch, kits of oolicans, barreled pork, furniture, nails, beer, mattresses, etc. The lime came from an American port, as did also the furniture, beer, and mattresses.

Heretofore the direct trade between the American continent and Australia has been conducted by a line of steamers that plied between Sydney and San Francisco. This line is subsidized by New Zealand and New South Wales in amounts varying from $350,000 to $450,000 per annum (more frequently, perhaps, the former amount), and the volume of business transacted has been quite satisfactory to the parties directly interested. New South Wales purchases from the United States an average of $5,000,000 per annum; but, the return trade being less, the difference had to be made up in gold, a drain on their resources which the Australians are seeking to avoid.

The following table will show some of the articles New South Wales imported in 1892 and the portion of each she obtained from the United States and from Canada:

Articles.	Canada.	United States.
Dressed timber	$30,000	$46,000
Rough timber	46,000	537,500
Doors	.....	71,300
Shooks and staves	.....	650
Laths	1,775	12,475
Shingles	.....	5,000

The waters of Australia contain no salmon, and a large trade in that article (canned, salted, and fresh), it is believed, can be built up. In 1892 New South Wales received from San Francisco 1,516,512 pounds in cans, valued at $135,670. One of the chief articles to be exported by Australia

over the new line is wool. Mr. Ward says that they hope to make such a rate with wool that it can be sent over the Canadian Pacific Railway not only to eastern Canada, but to points in the Eastern States as well. Mutton, he says, can be put on shipboard at Sydney at 2½ cents per pound, and that an additional cost of 3 to 4 cents for transportation will deliver it in Victoria in perfect condition from the refrigerator.

Canada is considering a subsidy of $125,000 per annum to the new line, New South Wales proposes to give it $50,000, and hopeful promises in a like direction are given out by the provinces of Queensland and Victoria.

The new line proposes to compete successfully with the Suez Canal route in freight, mail, and passenger business; first, on the ground that it can shorten the time between Sydney and London by several days over the old line; and, second, because of the greater comfort it has to offer passengers. The heat and other discomforts of the Suez Canal and Red Sea are well known to travelers, while the equator is crossed by the Australian, Sandwich Island, and Canadian line without any similar unpleasant experiences. These constitute strong claims for the public patronage, and, if they are made good in practice, the new line has a fair chance of becoming a successful venture.

Another important feature of the enterprise is an oceanic telegraph cable between Sydney and Vancouver, but it is not probable that this adjunct of the steamers will receive serious attention for some time. The line is in contemplation, however, and it is because of this that the projectors and the governmental influences that are seeking to aid them are watching with deep interest the disposition that is finally to be made of the Sandwich Islands and the governmental control they are finally to fall under. These islands lie directly in the course of the cable, and as a resting place for it they are of great moment in considering its cost and the feasibility of keeping it in operation.

LEVI W. MYERS,
Consul.

VICTORIA, B. C., *June 19, 1893.*

AUSTRALIAN SUBSIDY TO STEAM SERVICE.*

Referring to my report of May 10, 1893, I have the honor to report that the legislative assembly of this colony, by a vote of 39 to 25, agreed, at its session last night, or rather early this morning, to the resolution "that this house approve of a subsidy, at a rate not exceeding £10,000 per annum, being granted towards the monthly steam service now being performed between Sydney and Vancouver by Mr. James Huddart." I inclose copy of the proceedings.

Subsidies aggregating £35,000 per annum have now been granted—£25,000 by Canada and £10,000 by New South Wales—with a fair pros-

*See No. 154, pp. 328–337.

pect that the other colonies will shortly join in the movement, which gives this new line an immense advantage over the American line via San Francisco.

From a telegraphic dispatch, published in this morning's papers, it appears that the British admiralty is also in favor of granting an immediate subvention to this line. Copy of this dispatch is also inclosed.

WM. KAPUS,
Consul.

SYDNEY, N. S. W., *June 9, 1893.*

[Inclosure No. 1.]

STEAM SERVICE BETWEEN SYDNEY AND VANCOUVER.

Mr. Kidd moved: "(1) That this house approve of a subsidy, at a rate not exceeding £10,000 per annum, being granted toward the monthly steam service now being performed between Sydney and Vancouver by Mr. James Huddart; (2) that the above resolution be communicated by address to his excellency the governor." He might point out that this question was fully considered at the postal conference at Brisbane; and, after the matter had been discussed, it was agreed that it would be to the interest more especially of Queensland and New South Wales to have such a service. In view of the fact that the subsidies to the Peninsular and Oriental Company and the Orient Company not falling in until next year, no steps were taken on the resolution at that time. It was decided that when the time arrived for inviting tenders for the conveyance of mails to England this route via Vancouver might be considered. Since that time Messrs. Huddart, Parker & Co. had begun running a line of vessels from Brisbane via Vancouver. In entertaining what had been submitted to the government they wanted to be in a position before the close of the session to have the authority of parliament if it was thought in the public interests to subsidize a service, so that the government would be able to view the whole question. It would be much better for the government to be in a position to enter into negotiations with the sanction of the house rather than have to make an arrangement with the company subject to its ratification by parliament. A company had inaugurated the service, no doubt depending on the support of the colonies, and the fact that the Canadian Government had decided to grant a subsidy of £25,000 per annum for three years showed that it anticipated that a large trade would be opened up between that colony and Australia, and, if that resulted, the colonies would materially benefit. The government did not say that they would be justified in subsidizing a line of steamers for a new mail service, although in the future it might be found advisable to have such a route, as with more powerful steamers they would no doubt be able to get their mails delivered in England in twenty-six or twenty-seven days. If, through lack of their support, the company had to abandon the service, it might be difficult to induce a company to tender for a mail service by that route if they wanted one; but, if it were a success, they might induce this company to tender for the carriage of English mails, which New South Wales was at present subsidizing the Peninsular and Oriental and Orient companies to the extent of £26,000 a year for doing. The company now running to San Francisco had offered to continue the service to Vancouver; but that would take two and a half days longer than the present time and bring it up to forty-five days, which would be a rather slow service. He had little doubt that Queensland would join in subsidizing the new service, and Victoria might also be induced to join, as the advantages of the opening up of trade with Canada would be very great. What the government asked at the present time, however, was that they should be given power to negotiate, not necessarily with the one company, for a subsidy not exceeding £10,000 per annum being paid to it under certain conditions.

Mr. Garrard said that if the resolution were to be carried it should at least be truthful in the statements it made. At present it read "being granted toward the monthly steam service now being performed." As only one steamer had left for Vancouver, it could not be called a monthly steam service. Why should they be bound down to Mr. Huddart when other gentlemen might step in with a better line of boats? He did not think the honorable member could be congratulated on the case he had put before the house for asking them to vote for the resolution. Mr. Kidd had said the subsidy was to help commercial relationship with Canada. That seemed to him rather a strange thing in view of the protective policy of the government. He did not think that at this particular time they should be asked to vote £10,000 for that experimental service. If they wanted to test the question, let them avail themselves of the offer of the Union Company to run up from San Francisco to Vancouver for six months for nothing. That would test the question of whether there was likely to be any trade.

Mr. Reid said they must all highly appreciate the accommodating spirit of the government in saying that if there was the slightest objection the matter would be dropped at once. Mr. Garrard had been right when he had said the proposal was not in accord with the policy of the government, for the proposal was calculated to promote the freest interchange of commodities between the two countries. Mr. Kidd had innocently admitted that if there had not been a steamer at work on the line he would not have made the proposal. That was rather a weak admission to make, for it came to this, that, because some enterprising gentlemen had started the service, therefore the government felt compelled to back it up. That was not the right ground on which to put the matter. [Hear, hear.] It should stand or fall on its own merits. [Hear, hear.] There was another difficulty. The postmaster-general was practically asking the committee to enable the government to enter into a contract for three years at £10,000 a year. On the other hand, Mr. Kidd told them that the existing contract between New Zealand and San Francisco, to which New South Wales contributed, would expire in eighteen months. That suggested an awkward overlapping of the services.

Mr. Kidd: The contract with that service expires in November next.

Mr. Reid said that the minister had omitted to tell them whether the government intended to discontinue the subsidy to the San Francisco service.

Sir George Dibbs: Sufficient for the day is the evil thereof.

Mr. Reid said that was no answer. They wanted information. They were not going to support two competing lines running for thousands of miles in the same direction to two points only 800 miles apart. The announcement of what the government intended to do in the matter would influence the decision of the committee very much. He would say at once that he would feel strongly inclined to support the policy of giving up the San Francisco route and subsidizing the Vancouver route. He would be very glad to support the proposal to establish communication through the British Empire without touching foreign soil. [Hear, hear.] There was an immense amount of argument to justify such a course. Without wasting time, he would simply say that, hoping still to see such a line established, and feeling the greatest desire to draw closer the bonds of communication between Canada and New South Wales, and desiring that links of communication should be established between all parts of the great British Empire, he was compelled at the present time, in view of the great distress in this country and in view of the state of the public finances, to vote against any proposal which would take £10,000 out of the treasury, except for purposes of absolute necessity. [Hear, hear.]

Mr. Black said they could only test the advantages of the Vancouver line by giving it a fair trial. It should also be remembered that here a government of white people were subsidizing coolie-manned steamers. At present the trade between Australia and Canada was practically nil, and that was a good argument for establishing a trade. By opening up that trade another outlet would be found for Australian wool, minerals, wines, and fruit. The proposal embodied a private enterprise that should be supported by all men who felt for the welfare of Australia.

Mr. Inglis said that he was strongly in favor of the resolution, and he did not wish to deprecate any argument that had been brought against it. He desired to take the broader view of the question and not be so pessimistic as most people were just now. He had a strong belief in the powers of the colony, and before two or three years were passed, he believed, trade would be in a far better condition. The cry against spending £10,000 to open up a new source of trade was puerile, for the proposal was a distinct step toward proclaiming the supremacy of Sydney as the terminal port of all lines of communication across the Pacific. He did not wish to say anything against the San Francisco line, and trusted it would do even greater good than it had already done in breaking down the exclusiveness that separated America from Australia. The colony had already spent a large sum of money in advertising itself at Chicago, and it was surely not too much to ask for £10,000 to try and secure another source of trade. A trade with Canada would afford a market for our fine wool and other products, while in return the colony would receive Canadian supplies which could not be produced here. He quite admitted that the present was a time when they could not afford to throw away money on mere sentiment; but all he could say was that, seeing that in another year or two this country would be in a better position of prosperity than it had ever been, and they saw Canada holding out the hand of friendship in this way, they should accept the proposal.

Mr. Bruce Smith said they must not treat a subject of that kind in the highfaluting fashion which the honorable member who had just sat down had done, but they must look at it in a true business light and from the standpoint of New South Wales, which was the only standpoint from which to look at the matter. He intended to apply business principles to this proposal. They were not asked merely to give the government authority to use their judgment in entertaining this question with a view to determining its merits, but they were asked in specific words to approve of a sum of £10,000 being given to a certain firm. The postmaster-general had told the house that the government was so convinced of the unconstitutional aspect of taking money from the treasury without authority and then coming to the house afterwards for approval—a very novel thing for the government—that they had decided to actually ask the house to approve of a certain proposal before even the government had approved of it. The postmaster-general said the government had not yet made up its mind in connection with this scheme.

Mr. Kidd said he did not make that statement. He said they would enter into negotiations on the matter, and say that the government was favorable to the scheme if the house would agree to the proposal. He did not say they would hand the money over first and then consider it.

Mr. Reid: Perfectly clear, I am sure. [Laughter.]

Mr. Bruce Smith: The honorable member has made it as clear as mud. If the government had come to the house and said they were going to put a proposal before them, and ask them to approve of it—they themselves having all the services at their convenience for looking into the matter, and having gone into the matter and come to the conclusion that what they were going to ask the house to approve was a wise proposal—then the house would have had something to go on. That was not what the government did, but it was what they should have done, as it would have been some sort of guaranty to the house to approve of the proposal. The government came down and said they did not intend to say they were going to pay the money even if the house approved of it. If the committee said it was a desirable thing to do, the government was not going to say they would do it. The government said they wanted the sanction of the house before they considered the matter. They further said they wanted the authority of the house by them in case they considered it was desirable. Had the government formed no opinion? They had been discharging civil servants, and here was a proposal to spend £10,000. He would like to know where the bulldog grip was to-night.

Sir George Dibbs: You came here with a fixed resolution.

Mr. Bruce Smith: The honorable member had no right to say that. He knew a great deal more about that matter than the postmaster-general, and he came there with a great deal of information which induced him to oppose the proposal; but he was open to conviction if the postmaster-general or any of his colleagues showed reasons to upset those facts which he held in his hand. Here were they in a position when £10,000 should be of very great moment to the treasurer, and they should turn the sum of £10,000 over many times before they entered into this expenditure without many cogent reasons in its favor. The postmaster-general admitted that the £10,000 was not justified for the mail service. Then why was the matter in the hands of the postmaster-general at all? His speech was not that of a person who believed in the proposal. They already had a subsidized line of steamers running within two days' steam of that port. If they heard that the Canadian Parliament was subsidizing a line of steamers running to Sydney and intended to subsidize a line of steamers to run to Melbourne, would not anyone say why not run the line of steamers from Sydney to Melbourne? They were in that position. They paid £4,000 a year for a steamer line to San Francisco, and of that they got back £2,000 a year in postages. They thus had a line of steamers belonging to the Union Company, faster and larger than those running to Vancouver, running from Sydney via New Zealand to San Francisco, which was only a distance of 480 miles, or two and a half days' steam, from Vancouver. If their object was to connect with Canada, they had that already. What was proposed was to run a second line of steamers from Sydney to Honolulu, which was two-thirds of the distance, side by side with another line, and even after that they would have the two lines running in the same direction, only on another angle, so that they would reach their destination 850 miles apart. They were all agreed that, if all things were equal, they would give the preference to the communication that went through Canada as against the United States, because it was part of the British dominions, and was an equally good, if not better, route by which to get to England. But all things were not equal. They had a contract in existence which would last until November, and when that terminated would be the time for considering whether they should not adopt the Canadian route. If they wanted the steamers to call at Vancouver, they should, when the present contract terminated, call for tenders from those people who were capable of doing the work to get it done at the lowest possible price.

Mr. See: We want to support Canada.

Mr. Bruce Smith said that the house at last had a definite reason for supporting the motion before it, and why the parliament of New South Wales should subscribe £10,000. Members knew very well that the Canadian Pacific Railway Company was a huge commercial enterprise, and that the line having been constructed on the alternative block system the shareholders and members of the corporation received some millions of acres, and their object was to put the Pacific, and the islands of the Pacific, in communication with Europe through Canadian territory, and the interests of the Canadian Government and the railway company would be best served by subsidizing a line of steamers directly communicating with the greatest of the countries in the Pacific—Australia. The £25,000 per annum was not contributed from any principles of brotherhood or to advance federation. It was a cold-blooded commercial proposal worthy of a Scotchman. They were asked as an outlying country to contribute to a line which was inaugurated for a country that almost stood or fell by the great Canadian Pacific Railway, and, if £10,000 a year was a fair thing for New South Wales, £25,000 was a sum that Canada should be ashamed to offer. It was well known that the Canadian Pacific Company was about to build a line of steamers that would be almost equal to the great boats belonging to the Orient Company, and the small steamers would probably be asked to stand aside within the year. The Union Steamship Company had offered to continue the journey from San Francisco to Vancouver, and, if it was desired to have a direct route to Canada, that could be better arranged when the existing contract expired. He admitted that the company which they were asked to subsidize to the extent of £10,000 a year was a deserving and enterprising firm, but they were only enterprising on their own behalf and to benefit themselves. It was purely a commercial enterprise, and that was simply a

matter of pounds, shillings, and pence. There were several other firms, no doubt, that would be just as enterprising for £10,000. [Hear, hear.] If they decided that there should be a direct connection between New South Wales and Vancouver, then they should treat the matter from a business point of view and invite the whole world to tender for the service, so that the colony could get it done at the lowest possible price. When the proper time came there would be plenty of steamship companies ready to tender for the work. He believed that in time the service would be obtained for nothing. The San Francisco service was done for £4,000 gross, and, as it produced £2,000 for postage, the service actually cost £2,000 a year. He believed the San Francisco service would be the best. As for the argument about providing employment, he would point out that since 1867 the San Francisco service had spent £35,000 a year in New South Wales. Its disbursements in Sydney from 1886 to 1893 averaged over £2,500 per trip. Thirteen trips per annum during that time came to £32,500 a year, or an expenditure of something like a quarter of a million sterling between 1886 and 1893. As showing the business done by the company, from 1886 to 1892 the average number of passengers was 44 saloon and 40 steerage. In 1892 the average number of saloon passengers was 26 and 30 steerage. During the trip last May there were only 106 tons of cargo, 18 saloon and 13 steerage passengers. If that was the size of the trade, members could judge for themselves whether there was room for two lines of steamers. The burden of proof was upon the government to show that there was an urgency for the government line, and to show the house that, in the present crippled condition of the finances, the matter was so urgent that the government could not wait until the other contract terminates. The government had failed to prove that. The committee did not, by negativing the resolution, say that Vancouver should not be the route, but that it did not authorize the government to give £10,000 to a firm, leaving to itself the right when the contract expired to call for tenders for the work, thus giving the old company a chance as well as the new company and getting the work done as cheaply as possible. That was the business side of the question, and the committee was bound to regard the matter from that standpoint.

Mr. Nicoll said that he would vote against the resolution, because the proposal was unnecessary.

Mr. Johnson said that if any Australian company could be found to carry out the work for £10,000 the country would no doubt be well repaid.

Dr. Cullen said that he desired to take the first opportunity of refuting the pawnbroking cent-per-cent logic expounded by Mr. Bruce Smith. The cold-blooded calculations of that gentleman would only suit a money-lender. It always appeared to him that the state consulted its own dignity and interest when it took other considerations into account besides the matter of pounds, shillings, and pence. If the English Government had dealt in that manner with Australia, where would Australia have been? From a business point of view there might be great advantages from their relations with Canada. The time might come when the mail route across the United States would be closed to them through trouble with the United States; therefore, he would strongly support the proposal.

Mr. O'Sullivan said he intended to support the proposal because he was a protectionist. The starting of such a line of steamers would be a profit to New South Wales. These vessels would take 3,000 tons of coal per month, or 36,000 tons a year. That was a very great consideration to the miners of New South Wales at the present time. Then there would be sold to the new company provisions, and advantage would be gained by wharfage and dockage. He also supported the line because it was 1,000 miles shorter than the San Francisco route. He would like to see the vote made for twelve months only.

Sir Henry Parkes said he did not think the committee was clearly informed whether the intention was to subsidize this line to Vancouver and also to keep on the San Francisco service, or to replace the San Francisco service by the one with Canada. Another point was whether it had already been considered as to the expediency of commencing the new service when the old one terminated. He would like to know whether this question had been considered, and if that was why the subsidy was asked for at the present moment.

Sir George Dibbs said for his part he believed in keeping the colony in touch with the large populations of the European races. He would be very sorry if the line between Australia and San Francisco went down. For his part he was quite willing to subsidize that line and the line advocated that night. The house was asked by the resolution that night to join hands with 5,000,000 of their countrymen. He hoped no cheeseparing economy on the part of the colony would be carried out in endeavoring to close the line which had kept them connected with 60,000,000 of people. He thought it equally advantageous, from an educational and business point of view, to be connected with Canada. He thought the honorable member—Mr. Bruce Smith—came there that night with the object of opposing the scheme. The time was not far off when the surplus products would have to find a market, and it could be found in Canada. They would take some of our wool, hides, tobacco, wines, and fruits. The proposed subsidy would be recouped to this country seven times over, and would be the means of finding employment of an honest and legitimate character to people without being made paupers of the state. The present mail service to San Francisco was entered into by negotiations and without calling for contracts, and the service between Vancouver and Australia had been in the market for years. It was only the pluck and energy of the owners that prompted them to open up the service. The trade would also be a means of circulating money.

Sir Henry Parkes said that the discussion carried him back to the time when, thirty-five years ago, he made his first speech in favor of communication across the Pacific. The strange opposition that was then raised came back to him. The strange doubts then expressed he had not forgotten, but even then there was a disposition to give a general support to the proposal. The proposal now before the house revealed to him what an immense volume of trade and communication had sprung into existence since that time. He felt greatly relieved to know that it was not intended to close the communication to San Francisco. [Hear, hear.] He had had some doubts while the debate had proceeded as to the expediency of giving direct support to the resolution, and now he distinctly understood that it was the intention of the government to continue communication direct to San Francisco, and that the line which it was proposed to subsidize was to establish a second line connecting Australia directly with the Dominion of Canada. He would support the resolution. Mr. Bruce Smith had made a clever and impartial speech from his own point of view. He could not assent to his extraordinary notion that sentiment was not to enter into a matter of that sort. He was led to support the resolution from sentiment. And it should not be forgotten that Canada was part of the great Empire to which we belonged. He thought that the subsidy of £25,000 was not very large for Canada, as representing Canada, against our proportion as representing all Australia, and if we gave £10,000 it was a much larger subsidy than Canada gave. He would vote for the resolution, believing it was in the interests of Australia and believing it was in the interests of the age in which we lived to open up this communication with the great Dominion of Canada.

Mr. Davis said the government of this country had never received any assistance from America in the San Francisco service. As soon as the government entered into a contract with the Union Company a major portion of the contract was sublet to Spreckles & Co., who sent Chinese-manned steamers to this country until that was stopped. Most of the work in connection with these steamers was done in America. The same spirit which prompted Canada to subsidize the steamers with £25,000 would prompt her to remove her wool, wheat, and wine duties.

Mr. G. D. Clark said the day for subsidizing steamers was passed.

Mr. Kelly said he was going to vote for the subsidy.

Mr. Jeanneret said that he would favor communication between this colony and Canada by a subsidized service.

Mr. Hutchinson said he would vote against the proposal to subsidize the company in the interest of economy.

Mr. Rae said that the proposal was directly opposed to all principles of protection advocated by the government. He moved an amendment to omit all the words of the resolution

after the word "approves" in the first line, with a view of inserting the following words: "of the government inviting steamship-owners to make definite proposals for running a monthly service between Sydney and America, with either San Francisco or Vancouver as the terminal port, such proposals to be laid before parliament at the opening of the next session with a view of commencing a new service at the expiration of the present one."

The amendment was negatived on division by 39 votes to 32, and the original motion was agreed to on division by 40 votes to 31.

The house resumed, and the resolution was reported and received. The resolution was then read the second time.

The motion that the resolution be agreed to was carried on division by 39 votes to 25.

[Inclosure No. 2.]

THE VANCOUVER SERVICE—A BRITISH SUBVENTION.

LONDON, *June 8.*

The admiralty is in favor of granting an immediate subvention to Messrs. Huddart, Parker & Co.'s new line of steamers between Australia and Canada, but the treasury has postponed the consideration of the question until the permanency of the service has been proved. Sir Ughtred Kay-Shuttleworth, secretary of the admiralty, considers that the service will open up a valuable imperial route, especially for postal purposes.

INDUSTRIAL CONDITION OF GERMANY.

According to the official statistics of 1882, there were 42.5 per cent (equivalent to 19,225,455) of the population of Germany engaged in agriculture, stock-raising, and fishery; 35.5 per cent (equivalent to 16,088,080) in mining, building, and manufacturing; and 10 per cent (equivalent to 4,531,080) in trade and commerce. Since 1882 the followers of agriculture have not increased in a greater ratio than have the industrial classes. At present probably about 48 per cent of the population are engaged in agriculture and about 40 per cent in trade and industry.

The agriculture of Germany is not in a condition, even in the best years, to supply the needs of the population in food products. The excess of the imports over the exports of food products (including cattle) increases steadily from year to year. From 1880 to 1890 the population rose from 45,234,061 to 49,428,470, equivalent to 9 per cent increase, while the imports of food products rose from 2,809,773 tons in 1880 to 5,145,649 tons in 1891, equivalent to 83 per cent. The value of these food products rose from 941,000,000 marks* to about 1,553,000,000 marks, or about 65 per cent. During the same period the exports of food products declined from 2,288,756 tons to 1,725,858 tons, or 29 per cent. In the year 1892 the increase of the imports over the exports was even greater. As compared with 1880, the increase of the imports was 104 per cent in quantity and 79 per cent in value, the decrease of the exports 36 per cent in quantity and 40 per cent in value. In 1880 the excess of the imports was about 284,000,000 marks, and in

* The mark equals 23.8 cents.

1892 about 1,294,000,000 marks. Although, owing to the good crops of 1892, the imports of food products fell off considerably (the value of the same in the first three months of 1893 amounted to about 334,000,000 marks, against 414,000,000 marks during the entire year of 1892, or about 20 per cent less), the excess of the imports will reach 1,000,000,000 marks in 1893. This shows in what degree Germany is dependent on foreign countries for her supply of food products.

The industrial condition of Germany presents a brighter side. Here the excess of the exports over the imports has been steady. Taking manufactures and raw materials together, the value of the imports in 1891 was 2,597,000,000 marks and the exports 2,710,000,000 marks, which shows an excess of 113,000,000 marks of the exports over imports. In 1891 the value of the raw products imported amounted to 1,597,000,000 marks, and the value of the exported to only 556,000,000 marks, while the value of the manufactures exported amounted to 2,155,000,000 marks and the value of the imported to only 997,000,000 marks. In 1880 the value of the manufactures imported amounted to 823,000,000 marks and the value of the exported to 1,769,000,000 marks. The value, therefore, of the imports of manufactures rose 21 per cent and the value of the exports 22 per cent, that is, from 1880 to 1891. In 1880 the excess of the exports over the imports of manufactures was 946,000,000 marks, and in 1891 the excess was 1,156,000,000 marks. These figures show plainly how rapidly the industrial development in Germany has progressed and how important it is for a country to hold fast to its foreign trade in order to maintain its stand. The Germans are keen in observing this condition of affairs, and they are leaving nothing undone to impress the Government with the great importance of rendering the manufacturing interest all possible help. Business, however, in Germany has been bad during the past year, and one hears much complaint on all sides. Competition has become greater in consequence of an overproduction of many articles.

The official statistics show that the production of raw iron in Germany rose from 1,491,478 tons in 1871 to 4,617,702 tons in 1890.

WM. D. WAMER,
Consul.

COLOGNE, *June 27, 1893.*

BRUGES-HEYST MARITIME CANAL.

For several years past the Brugeois have discussed the project of making Bruges a seaport by the construction of a maritime canal to the North Sea, which they believe would revive the prosperity of the past. This plan has recently taken such definite shape that it merits our attention, particularly as it promises to further the rapid and direct introduction of American products into the interior of Belgium.

A technical commission appointed by the Government has elaborated the details of a spacious canal to unite Bruges with the sea at a point about 1 mile south of the town of Heyst. This canal will be perfectly straight and only 8 miles long, 72 feet wide at the bottom, and 246 feet wide at water level. What is most important is the unusual depth, which will be 26¼ feet at low tide. The Ghent-Terneuzen Canal is only 17½ feet deep and 18 miles long. At Heyst, which will be the avant port, there will be a single protecting jetty 1,968 yards in length, rising to a height of 14 yards above low tide. It will be constructed so as to curve from west to east, and thus protect the port against the prevailing severe winds. Under shelter of this jetty, extending 984 yards from shore, there will be quays 59 yards wide supplied with sheds, tracks, cranes, and all the equipment of a port.

The Government has promised to accord a subsidy of $5,000,000. On June 13, 1893, the provincial council of West Flanders voted $400,000 toward the execution of the project. This action, taken after a rather close vote, in which the councilors representing rival districts, such as Courtrai and Ostend, constituted the opposition, was enthusiastically greeted at Bruges by bell-ringing and a universal display of flags. On June 19 the town council of Bruges decided to give $1,450,000 for the same purpose. The construction of the canal is therefore assured. The total ultimate cost, it is estimated, will be from $8,000,000 to $9,000,000. Work will be begun in the near future and will occupy 1,200 workmen continuously for six years. In the construction 400,000 tons of stone, an equal quantity of material for concrete, and 80,000,000 bricks will be used. The metallic portion alone will cost $1,000,000.

With this canal Bruges will possess advantages over any other port in Belgium. In fact, Heyst, its avant port, will practically be the only Belgian port on the sea. Antwerp is dependent upon Holland, and navigation through the sandy sinuosities of the Scheldt, necessitating skillful pilots, can not be said to be rapid. Ghent is also dependent upon Holland, and this fact has thus far prevented imperative improvements in the Terneuzen Canal. Ostend can never be a great port, for its entrance is difficult and there is not sufficient water. All the other ports are mere harbors for local fishing boats. In any case the future port of Bruges will seriously endanger the maritime interests of Ghent and will doubtless divert considerable traffic from Antwerp.

In remote times an arm of the North Sea, called the Zwyn, existed in the northwestern corner of Belgium. During the latter part of the twelfth century, after continued inundations, this estuary extended 9 miles into the interior and transformed into a seaport the town of Damme, which had previously been connected with Bruges by a canal. This adventitious communication with the sea was the source of immense advantage to Bruges, which, with Damme as an avant port, soon became the metropolis of western Europe. Lombards, Venetians, and English thronged its quays and filled its warehouses with the products of Europe and the Orient conveyed into the center of the

city in imposing ships. A score of consuls invested with diplomatic functions resided there in the interests of their respective governments. At the apogee of its supremacy, activity, and wealth the city boasted of a population of 150,000. In the latter half of the fifteenth century the Zwyn began to retire from Damme. Navigation shortly became impossible further than l'Ecluse. Where was once the spacious port of Damme, which in the year 1213 admitted a fleet of 1,200 vessels, is now a prairie. The loss of its avant port involved the ruin of Bruges, which was further hastened by political troubles and the decline of the Italian cities. To-day, with a stationary population of 50,000, of whom fully the majority are poverty stricken, the city is so dull and melancholy that it is usually termed "Bruges—the Dead." Its commercial activity is strictly limited to the local necessities of daily existence, and, aside from its historical memories and monuments, it presents nothing of international interest, although it is the second largest town in this consular district.

JOHN B. OSBORNE,
Consul.

GHENT, *June 29, 1893.*

CIGARETTE MONOPOLY IN COLOMBIA.

In my report of February 24 last* I forwarded a copy of law 85 of 1892, authorizing the establishment of a tobacco monopoly in Colombia. The first action of the Government under that law will be found in decree No. 1008 of 1893.

By article 1 of the decree the Government reserves to itself alone, after August 10 next, the right to import fine-cut tobacco and cigarettes and the right to manufacture cigarettes from foreign or native tobacco, and prohibits individuals from engaging in the said business.

Article 2 provides that the Government shall import cigarettes, or cigarette tobacco, or leaf tobacco for cigarettes either directly or by contract, as it may deem best.

Article 3 provides for Government manufactories of cigarettes at Bogotá, Medellin, Cartagena, Bucaramanga, Panama, Pasto, and Cali.

Article 4 establishes public stores for the sale of cigarettes at Bogotá, Medellin, Bucaramanga, Cali, Panama, Cartagena, Barranquilla, Santa Marta, and Pasto.

Articles 5, 6, 7, 8, and 9 give the duties of the storekeepers and the details of carrying on the business.

Article 10 does not appear.

Article 11 authorizes the expropriation of existing cigarette manufactories.

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* See No. 153, p. 152.

Article 12 declares that the Government will buy or expropriate all the stocks of cigarettes now in the country. The Government may permit the owners to sell the same as agents at a commission of 10 per cent and to pay themselves for their stock out of the first proceeds, or the Government may sell the stocks at the official stores and pay for same out of the first proceeds.

Article 13 provides for the purchase or expropriation of cigarettes ordered before and arriving after August 10, 1893.

Article 14 provides for the purchase of cigarettes in factories on August 10, 1893.

Article 15 declares who are defrauders of the cigarette revenues.

Article 16 defines the punishment of defrauders of this revenue.

Article 17 defines the rewards of informers.

Article 18 requires public officers to guard against frauds in this revenue.

Article 19 provides that the Government will advance the initial expenses of the monopoly.

Article 20 provides for the public rental of the monopoly at the Government's option.

Monopolies are specially authorized under the constitution.

JOHN T. ABBOTT,
Minister.

BOGOTÁ, *June 16, 1893.*

IMPORTS OF HORSES, CATTLE, ETC., INTO NORWAY.

I transmit a circular of the 8th instant issued by the department of the interior of the Norwegian Government, giving the rules under which horses, cattle, swine, dogs, raw parts of ruminating animals, meat of cattle, tallow, grass, hay, and straw for fodder, besides implements used for cow stables, are permitted to be imported into Norway.

GERHARD GADE,
Consul.

CHRISTIANIA, *June 10, 1893.*

[Translation.]

By virtue of section 8 of the act of May 20, 1882, concerning arrangements for the exclusion of malignant contagious diseases of domestic animals, the following prohibitions of importation are hereby promulgated instead of those contained in the orders of March 9 and April 27, 1887, July 17, 1888, February 12, March 4 and 29, September 1, and October 31, 1892, and January 6 and March 23, 1893:

A.—Horses may not be imported, unless on the following conditions:

(1) That a certificate, issued by the competent police authority of the exporting country or by a Norwegian consul, accompany each animal, wherefrom it shall appear that the animal is healthy and not likely to introduce any contagious disease.

(2) That each animal, before being landed in a Norwegian port, be examined by a licensed Norwegian veterinarian and by him declared to be healthy.

B.—Ruminating animals (neat cattle, sheep, goats, etc.). The importation of these is forbidden from all countries, except the Russian ports in the Arctic Ocean and the White Sea, from which these animals may be imported into Finmark. The Norwegian reindeer trade is not affected by this prohibition.

C.—Swine may not be imported from any country, with the exception of the Russian ports referred to in the paragraph marked B, from which they may be introduced into Finmark.

D.—The importation of dogs is forbidden from all countries, with the exception of Sweden and Denmark, from which countries they may be introduced, provided a certificate accompany them, issued by the competent police authority of the country concerned, from which it shall appear that the animals in question have been in the said country for at least six months, and that, according to the statement of a licensed veterinarian, they are not likely to disseminate any contagious disease. Dogs belonging to owners of Swedish herds of reindeer and passing through Finland with such herds in transit from Sweden are not affected by this prohibition.

E.—Raw parts of ruminating animals and swine, also undressed skins and hides (dried and salted hides and skins not being included), undressed and unmanufactured hair and bristles, together with muzzles and hoofs, are not allowed to be imported from any country. The importation of unsalted and undressed meat and pork, and also unmelted tallow, shall be forbidden from Austria, Italy, Greece, Turkey, and Russia, except into Finmark from ports in the Arctic Ocean and the North Sea, and likewise from all countries outside of Europe.

F.—The importation of grass, hay, and straw for fodder is prohibited from all countries, except into Finmark from Russian ports in the Arctic Ocean and the White Sea.

G.—Utensils for use in cow stables that have already been used shall not be imported from any country, unless satisfactory evidence is furnished that they have been thoroughly disinfected.

This order shall take effect immediately.

All parties concerned shall duly obey it.

It is herewith communicated.

JOHAN THORNE.

CHRISTIANIA, *June 8, 1893.*

THE NATIONAL DEBT OF MEXICO.

Minister Gray on June 20 forwarded the following decree of the Mexican Government promulgated on the 29th of May, 1893, providing for the conversion of the national debt of Mexico by the issue of new 3 per cent bonds of the consolidated debt:

ARTICLE 1. The Executive of the Union is hereby authorized to dictate all such provisions and carry out such operations as may be deemed expedient to complete the arrangement of the national debt in accordance with the following stipulations, to wit:

(1) In all that concerns the rights of bondholders under the laws of June 22, 1885, and May 27, 1889, the consolidated debt of the United Mexican States shall be and remain in full force and effect.

(2) The issue of new 3 per cent of the aforesaid consolidated debt shall be effected solely for the conversion of current credits, while in no case may they (the issue) be made the object of loan operations.

(3) The prohibition contained in section V, article 1, of the law of June 14, 1883, relative to the credits created by the governments *de facto* therein named, shall be and remain in full

force; as shall likewise the prohibition of recognition, as a whole or in part, of credits which, having been presented by their legitimate owners, have been fully rejected.

(4) All credits condemned under article 3 of the law of May 27, 1889, to a reduction in principal or loss in interest can not be revived.

(5) All deferred credits not submitted for conversion within the period and in accordance with the provisions set forth in the laws dictated by the Executive in accordance with such authorization, and all other credits of similar character which, by any reason whatever, may not be recognized in virtue of new stipulations, shall be fully canceled, nor may they hereafter in anywise be made a claim against the nation.

(6) Rules shall be established whereunder the credits and unpaid balances of date subsequent to June 30, 1882, shall be exchanged for 3 per cent bonds of the consolidated debt; with the understanding that, should the parties in interest allow five years to have elapsed, dated from the conclusion of the fiscal year in which their credits were created, without asking for the respective certificate of the treasury indebtedness in their favor, their claims shall be forever barred.

(7) The provisions of the foregoing section shall not be regarded as affecting any credits represented by bonds, certificates, or titles of a general character which may have been issued in payment of subventions to railway companies or works of public benefit, or which represent loans made in cash to the Government, or purchases of effects settled for on a cash basis; all of which credits shall be the subject of special provisions tending, as far as possible, to uniform this class of debt and regulate the payment thereof.

(8) If, for the better arrangement of the floating debt and to obtain large decrease in the expenditures required for the service thereof, it becomes expedient to consolidate a part of said debt by bonds payable outside of this Republic, the issue of such new bonds shall under no pretext whatever exceed £2,500,000, and shall be made at the highest market price obtainable and under conditions as to guaranty, etc., not less favorable to the treasury than those on which rested the issues of 1888 and 1890.

ART. 2. The Executive shall report, at each session of Congress, for its information, as to the use made, in the interval, of the authorizations confided by this law.

THE ELECTRIC LIGHT IN MALTA.

In furtherance of the project of introducing electric light into Malta,* Mr. William H. Preece has just submitted to the governor and council a letter† accompanied by plans and specifications.

At the last meeting of the council, held on June 22, it was resolved:

That it is the opinion of the council that advertisements should be issued calling for tenders for the installation of electric lighting in Valletta and Floriana on the specification and forms prepared by Mr. W. H. Preece and in accordance with Mr. Preece's letter to his excellency the governor, dated June 8, 1893, which was laid on the table of the council of government on the 14th instant.

Should such advertisements be issued, I shall at once transmit copies.

I applied to-day at the chief secretary's office for a copy of Mr. Preece's plans and specifications, but was told that they had but one, the original copy. The secretary informed me that if the next meeting of the council was favorable to the project, the plans and specifications would then be promptly

* See Mr. Worthington's former reports on this subject in No. 133, p. 273; No. 138, p. 537; and No. 150, p. 362.

† Copy of the letter is appended.

published. When published, I shall promptly forward copies. American electrical engineers should, by putting in competing bids, endeavor to secure the contract. Payment will be beyond doubt, as the Malta government will itself be one of the contracting parties.

JOHN WORTHINGTON,
Consul.

MALTA, *June 28, 1893.*

[From the Malta Standard of June 20, 1893.]

MR. PREECE TO THE GOVERNOR OF MALTA.

GENERAL POST-OFFICE,
London, June 8, 1893.

SIR: I have the honor of submitting herewith a full specification, accompanied by plans of the plant required to commence a system of electric lighting in Malta. It will be observed that I have assumed that in the first place Valletta and Floriana are alone to be equipped, while the outlying cities and villages are left for future consideration, when the installation of the two principal centers is complete and successful. My reason for doing this will appear in the sequel. I have dealt rigidly with the scheme shadowed forth in my three previous reports.

The central station will be at the disused oil vats in the Strada Marina. The mains will be laid through the subways and sewers, and substations will be excavated in the solid rock at different places.

The high-pressure service will be entirely underground and secure in the subways, while the low-pressure service alone will be above ground, but under the surface of the streets and in the premises of the users; thus safety to person and building will be absolutely secured.

The government buildings to be supplied with the light will be wired with service leads by the contractor; but the fittings, general wiring, and lamps will form the subject of another specification and probably be carried out locally with greater advantage, either by local contractors or by special gangs under the supervision of the resident engineer.

The cost of wiring and fitting up all government buildings was included in the original estimates.

I do not anticipate that my original estimates will be exceeded, and the estimated working expenses will certainly be reduced, for experience and invention are rapidly effecting great economies; and, further, I have every reason to believe that my estimate of prime cost will not be reached. Considerable reductions in the cost of manufacture have occurred since my original estimate, and in my experience I have not known a single instance where the work has been carried out by local authorities and upon rigid specification where the estimates have been exceeded.

The manager of the gas company in Valletta, whose handling of statistics has been singularly unfortunate for the furtherance of the views of his employers, has pointed out that the capital expended by the vestry of St. Pancras and the corporation of Brighton has exceeded the original estimate; but he has omitted to point out that, owing to the unexpected and rapid success of the industry in both places, the increased demand for light has necessitated increased plant and, therefore, expenditure. In each case a commencement was made in a very small fraction of the estimated area to be served. Timidity and diffidence in the success of the experiment induced a small beginning, but now that the success is unmistakable and the progress marvelous additional capital is required and is being authorized without any hesitation.

In Huddersfield, before the first contract is completed and before a single lamp is lighted, the corporation have found the demand for light so far in excess of their anticipations that they have had to increase their plant and their capital expenditure.

I can not too strongly point out that in England there has been no single instance of financial failure when corporations have taken the matter in their own hands. The rates have never once been called upon to supply any deficiency.

Success in all instances has been assured, and the rate of growth of the business has exceeded the wildest anticipation.

It will be observed that in Valletta and Floriana we start with a complete scheme, and that my estimate for the whole of the area of the four cities, together with Sliema, is based on a much wider basis than in any similar case in England.

My estimate can not be exceeded, except unexpected success in the first installation leads to the adoption of the light in some of the outlying villages. The central station is so designed as to admit of extension in all directions; and any extension of the plant due to extension of the business must, of course, be met by increased capital expenditure.

I promised in my last report to limit the first expenditure to equipping Valletta and Floriana. It would not be possible to do more than this in the first year. It would limit the capital to be expended in the first instance; it would promote confidence; and it would secure experience.

There can be no question of success; these two places for the business will commence with a guarantied income sufficient to insure working expenses and to pay interest on capital borrowed.

The specifications ask for tenders to maintain the system in working order after the completion of the contract. This can be done on a working agreement for a term of years, subject to periodical revision, and subject also to determination at any time, on giving six months' notice.

Tenders are certain to be submitted by the most eminent firms in Europe, not only for the first plant, but also for subsequent working expenses, and your excellency and the council will not be committed to any actual expenditure until the full case is before you.

Hence, if my specifications are accepted, tenders may be advertised for, which will be submitted, examined, and reported upon; and in due course your excellency and the council will have to deal with absolute facts, rather than with estimates, which are always open to criticism.

I do not propose at this stage to support or allude further to my estimates or to enter into the financial question. I think this will be best deferred until I have analyzed and reported on the tenders sent in and have submitted a full and complete scheme based on my specification and actual tenders from responsible firms.

I have no fear whatever as to the result, and I am quite sure that the introduction of the electric light into Malta will be commercially successful and a sanitary, beneficent, and wise measure. Although I have specified only for Valletta and Floriana, the tenders will be applicable to the whole area, should your excellency and the council elect to consider the whole question, for the schedules of prices are intended to cover all extras and all further extensions.

I have, etc.,

W. H. PREECE.

NOTES.

Tariff Changes in the Bahamas.—Consul McLain, of Nassau, transmitted on June 17 the following notification of changes in the tariff made at the recent session of the colonial legislature:

Steel rails and sleepers used in the construction of railways and tramways, trucks and all other rolling stock which can only be used on railways or tramways, and hydraulic presses for baling purposes are exempt from import duties.

The object of placing these articles on the free list is the further encouragement of the sisal-growing industry, the large plantations requiring railways or tramways for handling their product.

Mexican Tariff on Corn, Corn Meal, and Beans.—By decree of the Mexican Government of March 10, 1893, foreign corn in grain and meal and beans were exempted from import duties; but on July 5 Minister Gray transmitted to the Department another decree, published in the Diario Oficial of the day before, declaring that from and after August 15, 1893, they should be subject to the payment of the import duties now ruling, and that from the same day should cease in their effects the provisions of decree of May 31, 1893, exempting them from the payment of octroi dues in the federal district.

Concessions to Industries Established in Mexico.—On June 20 Minister Gray forwarded the following translation of a decree of the Mexican Government, published June 13 in the Diario Oficial, authorizing the Executive for a period of five years beginning May 30, 1893, to grant franchises or concessions to companies establishing new industries in that Republic:

The Congress of the United Mexican States decrees:

ARTICLE 1. The Executive is hereby authorized to negotiate during the next five years any contracts granting franchises and concessions, which do not interfere with others, to companies which may guaranty the inversion of capital in the establishment and development of new industries in the Republic, subject to the following rules:

(1) The duration of franchises and concessions shall be graded according to the importance of the industry, and shall in no case exceed ten years.

(2) The minimum of the capital invested in the establishment and development of the industry shall not be less than $250,000.

(3) That same capital shall remain exempt for ten years from all federal impost.

(4) The respective concessionaires shall be allowed to import, for one time only, free of duties, the machinery, apparatus, tools, materials for construction, and other necessary elements for factories and buildings; giving bond in such case of importation, to be withdrawn as soon as the machinery is mounted and the employment of the materials and effects is proven.

(5) The concessionaires themselves shall guaranty compliance with their contracts by a deposit in bonds of the public debt, which shall be fixed in each case by the department of public works; said deposit to be made at the time of the signing of the contract.

(6) The concessionaire shall furnish the stamps needed on each contract when the same is signed.

ART. 2. The franchises of importation granted under this law shall be regulated by the departments of the treasury and of public works.

Punishment in Malta for Infringment of Trade-marks.—On June 7 Mr. John Worthington, consul at Malta, transmitted an account printed in the Malta Standard of June 6 of the trial of S. M. Cremona, charged with fraud, in that he had caused labels of Messrs. Arthur Guinness, Son & Co. (limited) to be forged and affixed to bottles which he filled with beer other than Guinness' and sold to the military hospitals in the island as theirs. This is said to be a singular case in the history of the criminal jurisprudence of Malta, the first of the kind brought forward in the criminal court. The judge, in summing up the case, said that the law required the affixing of a mark or name which should distinguish the goods, and that damage had been caused. The charge was the sale of an article to the detriment of others who had by their industry and ability created a quality of beer which was known throughout the world. Their trade-mark had been duly registered for protection. It was their exclusive property, and no one had a right to use it and to sell beer under their name. They had suffered not only a loss of profit, but their beer had been discredited. The jury returned a verdict of guilty as indicted. The prisoner's counsel excepted, claiming that the indictment was void, because the facts set forth did not constitute the crime described in it; for, although the affixing of a mark on goods had been proved, yet there was no fraud as to the nature of the product, which constitutes the principal and determining element of the crime. On May 22 the arguments on this law point were heard by the court, and the exception was overruled for the reasons that the crime was exactly that specified in article 281 of the criminal laws, that the facts were clearly described in the indictment, and that the element of fraud as to the nature of the product was not required by the article. Cremona was given two years' hard labor.

DEBTS OF HONOR,

OR

DEBTS NOT COLLECTIBLE AT LAW.

CIRCULAR.

On March 6, 1892, the following circular was addressed by the Department to the various consular officers of the United States:

The National Board of Trade, at its recent annual meeting, adopted a resolution requesting the Department to secure, through its consuls, reports upon the subject of debts of honor, that is, debts not collectible at law. The chairman of the committee appointed to carry out the wishes of the board in this regard, in submitting a series of interrogatories for consular investigation, writes as follows:

"The commercial interests have engaged in an effort to revise and unify the existing commercial laws of the country, recognizing a constant tendency toward confusion, limitation, and exemption in legislation, to the great embarrassment of enterprise and development. It has been concluded to be folly to attempt to propose remedies without adequate knowledge as to the effect and operation of kindred institutions elsewhere; hence in former years we have asked information as to credit systems (CONSULAR REPORTS No. 43) and as to mortgages (CONSULAR REPORTS Nos. 110 and 111) with great satisfaction to the interests involved. Our work has intimated a still further necessity, viz, information in regard to what may be termed debts of honor, or debts not collectible at law. With this blank filled by the information solicited, there can be nothing further to which your Department can contribute. There are a vast number of people who are patriotically concerned in this effort, who will appreciate the service which the Department may render in this connection, and to that end we present the matter in the following series of interrogatories for submission to the consuls of the United States in the several countries.

"J. A. PRICE, Chairman, Scranton, Pa.,
"J. A. GANO, Cincinnati,
"J. A. LANE, Boston,
"W. J. POPE, Chicago,
"ERASTUS WIMAN, New York,
"*Committee on Credits*

"INTERROGATORIES.

"1. What are the various obligations that have no legal or binding nature except the honor of the debtor?

"2. Are drinking, gambling, and betting debts collectible at law?

"3. Are there any obligations for professional services that are debts of honor?

"4. To what extent, in proportion to the amount incurred or assumed, are debts of honor paid?

"5. In cases of insolvency, are debts of honor usually paid if the debtor subsequently retrieves his position?

"6. To what extent is outlawed indebtedness considered a matter of honor and paid?

"7. Are honorary debts more generally satisfied in full than legal debts in proportion to the amounts involved?"

In compliance with the foregoing, you are requested to prepare reports upon the interrogatories and forward the same to the Department at your earliest convenience.

EUROPE.

AUSTRIA-HUNGARY.

DEBTS NOT COLLECTIBLE.

The laws of Austria, as is probably the case in every constitutional state, deny their assistance for the enforcement of obligations only in exceptional cases; these cases are:

(1) Obligations entered into by persons who are minors, mentally deranged, or legally placed under guardianship as squanderers, when such obligations are entered into without the assistance of the guardian.

(2) Gambling or betting debts, with the one exception mentioned in the reply to the second interrogatory.

(3) Certain kinds of drinking debts.

(4) Claims arising from contracts for the making of which special formalities are prescribed by law, when such formalities have not been complied with, viz:

(*a*) Promises of donation which have not been made in writing before a notary public.

(*b*) Claims for dowry that are not articled in the marriage contract made by the married couple before a notary public.

(*c*) Other promises of payment made by one of the married couple to the other which are not expressed in writing before a notary public.

(*d*) Participations in lottery chances when not sold in distinct written form.

(5) Claims of an employer against an employé for victuals given in place of wages (truck system).

(6) That part of the claims of a creditor against a bankrupt or insolvent which was left unpaid after the allotment fixed by the courts.

(7) Pledges in connection with a promise of marriage in case of withdrawing from betrothal.

(8) Fees promised to matchmakers.

(9) Fee agreed upon in advance to a physician for performing a cure.

(10) The purchase by the attorney of an object in litigation.

(11) Usurious claims for loans in excess of the amount of the actual loan when pronounced as usury by court.

(12) Outlawed debts, in so far as they come under the plea of prescription.

(13) Obligations entered into for the performing of immoral or illegal acts can not be enforced at law, nor can any payment made for their performance be recovered back.

DRINKING DEBTS.

Drinking debts in general are collectible. There are only two provinces (crown lands) in which the Austrian Legislature has declared drinking debts not to be collectible, and in them the contraction of such debts is even punished by fines and imprisonment. If, for example, an innkeeper credits a drinker who is already indebted to him for drink, any excess of drinking debt can not be collected, and, besides, the innkeeper is liable to punishment.

This law, which has been in force in Galicia and Bukowina since 1879, has been brought before Parliament to be enacted for all the crown lands.

GAMBLING DEBTS.

Gambling and betting debts, between which the Austrian law makes no distinction, are collectible if, in such games or bets only as are not prohibited, the stakes have been paid or deposited in advance. In all other cases gambling and betting debts are not collectible. Obligations entered into at the exchange for differential speculations are always collectible at law according to a special decree.

DEBTS FOR PROFESSIONAL SERVICES.

According to Austrian law, there is a recompense due for every work ordered, provided such work is not against the existing laws. The recompense is either agreed upon or fixed by a tariff, or, in the absence of any agreement or tariff, determined by the courts after the hearing of experts. He who without any special order performs some necessary or useful work for another has a claim against him collectible at law, but only for indemnification of his expense.

The fee of a physician agreed upon beforehand for making a certain cure and the fee for matchmaking (which in this country is frequently made a professional business) might be considered as obligations for professional services which are generally paid as debts of honor.

PROPORTION OF DEBTS OF HONOR PAID.

The extent to which, in proportion to the amount incurred, debts of honor are paid can not be given, as debts of honor are not collectible at law. Nor can any statistical data be obtained, as debts of honor are generally of a secret nature and shun publicity.

Experience shows that, according to the sense of honor of the present time, the following debts of honor are generally paid in full: Gambling and betting debts, usurious debts under pledge of honor, debts for matchmaking, and physicians' fees for successful cures, although agreed upon beforehand.

The following debts are, as a rule, paid in part: Attorneys' fees, if they reach the value of the object in litigation; obligations entered into by

minors without the consent of their guardians, after such minors have become of age, if they possess sufficient fortune; liabilities remaining after bankruptcies, donations not made in legal form, outlawed debts.

The keeping of the promise of marriage depends on the social position of the affianced; however, this, too, is a purely individual question.

Gambling and betting debts, as well as usurious loans, are paid because the honor is at stake and from fear of publicity; drinking debts are settled with a view to obtaining more drink; while the payment of fees for physicians' cures and for matchmakings may be considered as arising from gratitude.

DEBTS OF INSOLVENTS.

The Austrian bankruptcy statute provides that, in order to perfectly retrieve his position, an insolvent person should show that that part of his liabilities which remained unpaid after the allotment of the assets by the court has also been discharged. Commercial insolvencies may be settled by the so-called compulsory settlement, which may be resolved by a majority of the creditors, and by which every creditor must resign all claims against the insolvent beyond the share of the assets allotted to the creditor.

In case of complete retrieval of an insolvent, proof is required—particularly for the purpose of his reinstatement in commercial political bodies—that that part of his liabilities which was not settled by the compulsory proceedings has also been discharged. Creditors, however, as a rule, in consideration of a small amount paid to them beyond the share allotted to them by law, will consent to declare that they have been fully satisfied, by which means a complete retrieval of the debtor is easily arrived at.

OUTLAWED DEBTS.

Although suit may be brought for outlawed debts, recovery will be denied upon the mere plea and showing of the debtor that the debt is outlawed. As a rule, they are only paid when the debtor is ignorant of the fact that after the lapse of a certain time he is not under obligation to pay. The payment of an outlawed debt as a debt of honor, that is, merely for honor's sake, will occur but rarely.

The right of recovering back money paid for an outlawed debt is denied by Austrian law. It expressly says that payments made for outlawed debts, or for any claim void only through the nonfulfillment of formalities, or which is not collectible at law, can not be demanded back any more than payments made by persons knowing that they did not owe them.

GENERAL REMARKS.

It might be mentioned, in conclusion, that the expression "debts of honor," as generally accepted, does not mean debts not collectible at law (which are such as have been specified above), but such debts as imply some special moral obligation in addition to a legal obligation on the part of the debtor.

Any debt contracted on pledge of honor by an officer of the army or navy is not only collectible at law before the usual courts, but the officer, if he fails to discharge his debt of honor in full, may also be called before a military court of honor.

JULIUS GOLDSCHMIDT,
Consul-General at Vienna.

BELGIUM.

The questions propounded being entirely of a legal character, I have sought the most reliable legal information and am indebted to lawyer Jules Vrancken, of Antwerp, one of the ablest jurists, for these replies to the interrogatories.

DEBTS NOT COLLECTIBLE.

I understand that by "obligations" is meant "natural obligations." It is impossible to enumerate these. Laurent, in his "Precepts of Civil Right" (vol. 17, p. 17), says:

The code does not define the natural debts and does not enumerate them; the conclusion of which is, that the judge will have discretionary power in this matter, as there is no violation of law. Is this not too absolute? The law does not, either, define the civil obligation; but does this mean that a tribunal may decide that a moral duty is a civil obligation? It could not, either, give to a moral duty the effects of a natural obligation.

Hence it follows that there are three degrees—moral, civil, and natural obligations.

Moral obligations belong to the domain of morality or religion. Natural obligations alone have legal effects, but the natural obligation is not defined by law, and from its nature it is very vague; hence the uncertainty and confusion which reign in the jurisprudence. (Laurent, vol. 17, p. 27.)

The point has been discussed whether a maintenance debt (*dette alimentaire*) is a natural obligation when it is incurred or executed toward a parent who has no right to maintenance in virtue of law (Laurent, vol. 17, p. 27), and one naturally asks, also, if the obligation to endow children is a natural obligation. In volume 17, page 31, Laurent says:

The obligation to endow children, is it a natural obligation? The question is controverted, as nearly everything in this question is.

On page 33, same volume, he says:

Are gambling debts (*dettes de jeu*) natural obligations? This question is also controverted; however, it seems decided by the text of the code. It is admitted generally that gambling debts (*dettes de jue*) are natural obligations.

On page 34 he cites another example when he says:

The law abolishes a debt for political reasons; the natural obligation continues to exist We have an example in feudal funds (*rentes féodales*).

Finally, on page 35 he says:

The doctrine and jurisprudence admit, also, amongst natural obligations, those of a bankrupt debtor to whom his creditors grant a concordat or composition in giving him abatement of part of his debts. This abatement cancels the suit, but does not cancel the natural lien which obliges the debtor.

You will notice that there is no possibility of giving a complete enumeration of all natural obligations.

DRINKING AND GAMBLING DEBTS.

Article 1965 of the civil code says: "The law does not grant any action for a gambling debt or the payment of a bet." Article 1967 adds: "In no case can a loser regain that which he has voluntarily paid, unless there has been deceit, fraud, or swindling on the part of the winner."

DEBTS FOR PROFESSIONAL SERVICES.

I understand these as professional obligations to lawyers, doctors, etc. These would be civil obligations, that is, susceptible of judiciary sanction. The remuneration in these cases is called "honoraires," retainers, or fees.

The "Pandectes Belges," at the word "avocat" (lawyer), says:

From the agreement made and so understood and concluded result reciprocal rights and obligations protected, as all civil rights, by a judiciary action.

* * * * * * *

The right to a judiciary action must be distinguished as far as the professional fitness exists to exercise it. The right is incontestable. It has been judged several times.

* * * * * * *

But, if such is the right, the professional fitness is different. Lawyers who profess to exercise their profession in all its rigor never take action for the payment of their retainers. The tradition is very clear, and, although rather numerous infractions have taken place in Belgium, it is maintained in force.

PROPORTION OF DEBTS OF HONOR PAID.

The law does not give any sanction to natural obligations. There are no means to constrain the debtor of a natural obligation. This sanction does not even exist for part of the debt.

DEBTS OF INSOLVENTS.

There exist no usages in this matter. The law abandons the natural obligation to the conscience of the parties, and at present the jurisprudence shows itself very hostile to gambling debts. This tendency is taken advantage of by many persons.

OUTLAWED DEBTS.

There is no question of more or less. Once a debt is outlawed, the law refers it to the conscience of the debtor. It is free for him to set up the limitation or not.

PAYMENT OF DEBTS OF HONOR.

Everything depends upon the debtor. He is free to put natural obligations and legal obligations upon the same footing.

The cases of bankrupts who pay their creditors in full and who are rehabilitated are few and far between. Among six hundred and twenty-three bankruptcies from January 1, 1882, to January 1, 1892, only twelve bankrupts were rehabilitated.

The desire to speculate at present is rife, and the "jeu de bourse," or speculating upon merchandise or stocks or bonds for future delivery, which are never delivered when the time comes, gives rise to innumerable lawsuits; and, as differences are always large, it very often happens that the debtor invokes the exception of gambling (*dettes de jeu*), since no merchandise has been exchanged and the speculation has been upon eventual differences in prices between the date of purchase or sale and the date of falling due of the contracts. American speculators who have agents operating for them on the Continent must know how often they have been victimized by certain clients who suspend payment after unfortunate speculations and refuse to recognize the differences they owe, putting forth the plea of gambling.

STANISLAS H. HAINE,
Vice-Consul at Antwerp.

DRINKING AND GAMBLING DEBTS.

Drinking, gambling, and betting debts are not collectible at law. According to Belgian law, such obligations have no legal binding nature except the honor of the debtor.

By a decision of the highest court of this country (cour de cassation de Belgique) *in re* Leon Meens *vs.* Barnett, November 19, 1891—

> Betting and gambling debts are not collectible at law, and such enactment has been made not only to protect private interests of gamblers, but also to protect society generally and families particularly from the reverses of fortune arising from gambling.

Article 1965 of the law does not accord any action for a gambling debt; and drinking debts, according to article 17 of the Belgian law of the 16th of August, 1887, are not collectible at law under the circumstances stated in said law.*

DEBTS FOR PROFESSIONAL SERVICES.

All obligations for professional services are legal, and debts of that kind are collectible at law.

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* *Translation of article 17 of the law of August 16, 1887.*—Payment for intoxicating drinks consumed in public houses, cafés, taverns, or any retail liquor shop whatsoever shall not be collectible at law. This order is not applicable to the law for payment of debts contracted under the head of lodging or board in hotels and inns and under the head of meals, including at the same time drinks and food.

PAYMENT OF DEBTS OF HONOR.

Many consider that they are in honor bound to pay and satisfy what they call debts of honor. The Belgian courts have recently given most strongly worded decisions in reference to gambling and betting debts. It is now held by the superior court of Belgium that it is a question of public and moral law not to acknowledge a gambling or betting debt, and under the force of this new view there is no doubt that many people will find that they are not in honor bound to satisfy and pay such debts. As a rule, legal debts are more generally satisfied in full than debts of honor. It is important to state that under Belgian law, when a gambling or betting debt has been paid by the debtor, he can not demand restitution of the sum he has voluntarily paid. In no case can the loser claim or sue for sums which he has voluntarily paid, at least when there has not been on the part of the winner deceit, fraud, or swindling.

GEO. W. ROOSEVELT,
Consul at Brussels.

FRANCE.

DEBTS NOT COLLECTIBLE.

According to the French law, the various obligations that have no legal or binding nature except the honor of the debtor are those arising from illicit or unlawful transactions. Illicit transactions are classified as follows:

(1) Those contrary to morality.

(2) Those which the law does not recognize. Such are, for example, contracts with marriage or match makers, those between a lawyer and his client by which the profits arising from a lawsuit are to be divided between them, agreements to forward a theatrical enterprise, promises made by a person guilty of crime or misdemeanor in order to elude justice, and betting and gambling obligations.

DRINKING DEBTS.

Suit can be brought against a man for drinking debts.

GAMBLING DEBTS.

Betting and gambling debts are not generally recognized, and legal action can not be taken against the contracting party except in the following cases: In games of skill, such as lawn tennis, foot races and other athletic sports, and horse races. The proviso in all these cases is that the amount sued for must be within the means of the loser.

DEBTS FOR PROFESSIONAL SERVICES.

There exist certain obligations for professional services that are debts of honor for the recovery of which no legal action can be taken. For example an attorney at law can not sue his clients for fees.

PROPORTION OF DEBTS OF HONOR PAID.

In France the full amount of a debt of honor is generally paid; but in cases of insolvency, if the debtor subsequently retrieves his position, he rarely, if ever, fulfills the obligation he takes upon his honor at the time of his assignment to pay his creditors. The principal cause is that it requires time to reëstablish his fortune, and when that time comes he has, as a rule, forgotten his creditors, some of whom have changed their place of residence and others have died. The French law, which deprives an insolvent of the rights of citizenship, provides that this right be restored him on the exact and conscientious payment of all his debts. Unfortunately, there are but few who care to avail themselves of these privileges. Outlawed debts, which by the very fact become debts of honor, are rarely, if ever, paid.

Although honorary debts are generally satisfied in full, it is nevertheless certain that legal debts are more frequently liquidated.

H. DE SALLIER-DUPIN,
Consul at Nantes.

DEBTS NOT COLLECTIBLE.

The civil code states that the law does not authorize prosecution for the payment of any debt resulting from playing, gambling, or betting. Articles 1965 and 1966 make an exception of certain kinds of games, such as shooting, racing, marching, baseball, football, etc.; in fact, all games the object of which is to increase human skill, agility, and strength. The code, however, adds that in all cases it is discretionary with the magistrate to decide whether the money at stake is proportionate to the means of the parties and the game at issue; if the stakes from these points of view are too high, the debt is canceled.

DRINKING DEBTS.

Drinking debts are collectible at law; gambling and betting debts are not, with the exceptions above mentioned.

The bourse speculations are generally treated as gambling and can not be brought into court, except in case of swindling, forgery, etc.

Bottomry bonds for advances made upon a vessel to enable her to continue the voyage do not hold good if the vessel is lost upon the second part of the voyage, and the person who makes such advances may lose the whole amount. Some marine insurance companies undertake to cover this kind of risk, but only with a "policy of honor," a mere verbal agreement. The law is powerless to compel the payment, but I never heard of such a claim being dishonored.

PROPORTION OF DEBTS OF HONOR PAID.

Generally debts of honor arise from card playing or horse racing. Twenty-four hours is the allowance of time for payment, and in most cases these debts are paid.

DEBTS OF INSOLVENTS.

In cases of insolvency debts of honor are not usually paid, as the debtor has lost a social position that he can not retrieve and obtained a notoriety which causes club men to avoid him.

OUTLAWED DEBTS.

The extent to which outlawed indebtedness is considered a matter of honor and paid is very general, because debt is the only unpardonable sin in France, and the disgrace of it descends from sire to son.

PAYMENT OF DEBTS OF HONOR.

Honorary debts mostly arise between club men, and nonpayment would incur expulsion and degrade the person who could not pay; therefore, club men do their utmost to pay these debts. Although absurd, it is a fact that a man can become quite isolated and cut off from society if he fails to pay 1,000 francs lost on the turf or at his club in baccarat or some other game, but can maintain his standing if he owes 10,000 francs to his upholsterer, bootmaker, or tailor. This is the fashion—nothing else. In former times a man unable to meet his debts of honor committed suicide; now he retires from the place for a greater or less time and sometimes fails to return. A man once disgraced in his club seldom returns to satisfy his debts of honor.

CHAS. P. WILLIAMS,
Consul at Rouen.

GERMANY.

In spite of all efforts (among which was the consultation of an able lawyer) to secure information on the subject-matter of the questions in the circular, I have perhaps not been as successful as might be expected. It is impossible for me to answer the interrogatories in such a way as I should wish.

DEBTS NOT COLLECTIBLE.

The German civil code for the whole Empire has not been finished as yet, nor are there any laws among those in force for the Prussian State treating much on this subject. All that is mentioned in those laws is that all contracts which are based on a subject not permitted, or which is forbidden by existing law, or on one immoral are void; so also are obligations arising from gambling or betting. So-called "honorary debts" are not known by civil law. There are recognized "natural obligations," that is, obligations based on "natural right," but not on law, and those that may arise, for instance, from questions of humanity; but the only effect of these "natural obligations," according to the law in force here, viz, the "Code Napoleon," is that any money which has been voluntarily paid can not be claimed back.

GAMBLING AND DRINKING DEBTS.

Gambling and betting debts are not collectible by law,* because arising from "immoral causes," but drinking debts are. From all that I can gather, drinking debts are not frequent. People generally pay as they go.

DEBTS FOR PROFESSIONAL SERVICES.

All debts for professional services are collectible at law.

PAYMENT OF DEBTS OF HONOR.

There are no statistics or recognized precepts from which I could derive the information desired by the fourth, fifth, sixth, and seventh questions; all depends on the individual willingness of the person involved.

I have learned here of cases of honor among merchants and manufacturers, where the interests of persons who had confided in them were at stake, which indicate great honor and a high character and sense of duty on the part of those concerned, especially when a payment could have been easily and lawfully evaded; for instance, where funds intrusted for interest or profit bearing investments by persons unversed in business, being invested in stock not proving profitable, have been paid back in full with interest. I would also mention that there are frequent cases where old, faithful operatives are retained at the full rate of wages they were able to earn when strong or are allowed to retire with a pension from the firm for the remainder of their days. Old, faithful servants are also often remembered in a similar manner.

I think that this goes far towards answering the interrogatories of the circular not specifically answered in the foregoing. I look upon the rest as matters of pure philosophy very hard, and indeed impossible, to answer here.

A. G. STUDER,
Consul at Barmen.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are:

(1) The obligation of a minor to pay a contracted debt.

(2) The obligation of an heir who is entitled by law to one-fourth of the inheritance to pay certain sums to persons designated by the deceased if by doing so he has to pay it out of the amount to which he is entitled by law.

(3) The obligation to pay outlawed debts.

(4) The obligation to pay a just debt even if released by a decision of court.

* It appears from other reports (*infra*) that in Germany bets made on certain games can be collected by process of law.

(5) The obligation to pay a just debt in case where, by erroneous contract, it is not collectible by law.

(6) The obligation of a father-in-law toward as on-in-law and of a wife toward her husband if a dower has been promised.

(7) The obligation to pay gambling debts.

(8) The obligation to pay debts for immoral services rendered.

DRINKING AND GAMBLING DEBTS.

Drinking and betting debts are collectible by law; gambling debts are not.

DEBTS FOR PROFESSIONAL SERVICES.

There are no obligations for professional services that are debts of honor.

PROPORTION OF DEBTS OF HONOR PAID.

It is impossible to answer the fourth question intelligently. From what I know of German society, I think that of debts of honor contracted by officers of the army, as well as by officers of the civil service, 80 per cent are paid or settled by mutual agreement, for the very reason that these gentlemen would not be able to hold their positions in the Government service if a dishonorable act could be proved against them.

DEBTS OF INSOLVENTS.

Among gentlemen, in the true sense of the word, it is a duty to pay such debts as soon as circumstances permit them to do so. In Bremen it has occurred frequently. It would be saying too much, however, to call it a usual occurrence.

OUTLAWED DEBTS.

Every debt for which an equivalent has been received is considered a debt of honor. A man who would refuse to pay an outlawed debt, if his circumstances permitted him to pay it, acts dishonorably. To what extent these debts are paid it is impossible to say.

PAYMENT OF DEBTS OF HONOR.

I do not think that honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

HUGO M. STARKLOFF,
Consul at Bremen.

PAYMENT OF DEBTS OF HONOR.*

Debts of honor are considered more binding than other indebtedness, and are generally paid in full in preference to legal claims. Army officers

* As most of the answers are similar to those given by Mr. Studer and Mr. Starkloff, they are omitted.

must pay their gambling and betting debts or resign their commissions. Should anyone become insolvent and unable to pay his debts (legal or honorary) and in after years come into possession of property, he would lose his rank in society unless all of his debts at the time of his insolvency were paid in full, especially his debts of honor. Any indebtedness, whether outlawed or not, is considered a matter of honor and is paid by any gentleman who comes into possession of sufficient property to do so. So-called honorary debts are generally contracted by the wealthier and better educated classes, whereas legal debts are made by all classes. For this reason honorary debts are generally satisfied and paid in full. If a legal claim can not be paid by a debtor, he either compromises with his creditors or he is forced to pay by legal proceedings as large a percentage as his assets will allow. Should any indebtedness remain unpaid, it is considered as a moral or honorary debt and will be paid by any man of honor when he may possess sufficient means to do so.

EVANS BLAKE,
Consul at Crefeld.

GAMBLING DEBTS.

The law admits of no trial for gambling debts or for payments of a wager. Games which are considered as a matter of practice with weapons, every kind of race and games of call, and any other game that depends upon bodily dexterity are excluded from the above-mentioned rule; and even in such cases the courts have the power to overrule and set aside any complaint in case the sum in question appears unreasonable and too high.

The above law has, however, been so far modified under an act of April 29, 1882, that so-called book-making at races and betting on races is considered as gambling, and debts so contracted are not collectible at law.

PAYMENT OF DEBTS OF HONOR.

It is estimated here that debts of honor are settled to the extent of 50 per cent of the total amount due.

If the debtor subsequently retrieves his position, in the absence of agreement or judgment by a court, the debt of honor in nearly every case is paid in full. Often special agreements are made providing for settlement at a certain percentage, and in such case only the amount agreed upon is paid.

Debts of honor, which are more frequent among the great number of army, navy, and civil officers to be found in this country, are paid if within the power of the debtor. Otherwise the standing and character of such officer is much injured. The settlement of such accounts is often postponed for a long time on account of the very small income received for services.

In regard to legal debts, the debtor knows that his property is subject to the payment of such debt; and it is to his interest, if he expects to continue in business or to reside in the community, to make provision as far as possible for payment.

D. J. PARTELLO,
Consul at Dusseldorf.

DEBTS NOT COLLECTIBLE.

By debts of honor is understood all that class of obligations which can not be collected by legal process. There exists in Germany no general civil code fixing the precise status and limitations of such debts for the whole Empire. Such a general code is under consideration; but it has not yet been enacted, and the states, provinces, and, in some cases, individual cities have civil codes which differ among themselves in greater or less degree. The civil code of Frankfort is based upon the Roman law, modified in certain respects by local conditions.

The various obligations that have no legal or binding nature except the honor of the debtor are of three classes according to their nature, form, and duration, viz: (1) Contracts that are of an obscene or immoral nature; (2) contracts which are not made in writing or in presence of a notary, and which involve a sum less than 150 marks ($35.70) and are not of a commercial nature; and (3) contracts which have expired by limitation. As to duration, or the limit of time at which different classes of debts lapse by limitation, it can only be said that the limit varies from six months to thirty years and involves distinctions too elaborate to be considered here.

DRINKING AND GAMBLING DEBTS.

Drinking debts are collectible by law. An effort has been made in the German Reichstag to abolish their legality, but it has thus far failed of enactment. Gambling debts are not recognized by the civil code, and are therefore debts of honor. Under gambling are included all bourse, or exchange, operations on "margins," or where the shares or other property are not actually delivered. Betting debts are collectible at law, unless decided by the court to be extravagant or excessive. The code allows the court great latitude in decisions of this character; and all the circumstances under which the bet has been made, the financial ability of the loser to pay, etc., are considered.

DEBTS FOR PROFESSIONAL SERVICES.

Obligations for professional services are in general collectible at law. There are, however, fixed schedules of fees for the services of attorneys, physicians, and, under certain limitations, for brokers, beyond which the client can not be compelled by law to pay. But these schedules of fees are all old, and were fixed at a time when all wages and fees were much less than now; so that it would be considered little short of dishonorable in a client

to refuse payment for such services beyond the limit fixed by the antiquated fee list. In cases of attempted extortion, however, the schedule offers a valuable protection, especially to strangers, who would be otherwise at the mercy of lawyers and physicians. It is but justice to say, however, that these charges are generally far less in Germany than in any large city of the United States. It will be understood that nothing in the civil code prohibits a client engaging an attorney upon terms above those prescribed in the schedule; but, in the absence of an agreement, the schedule limits the legal liability of the client.

PROPORTION OF DEBTS OF HONOR PAID.

This question is by its nature incapable of being answered with any degree of exactness. No record of such cases is kept, and no statistics on the subject are attainable.

DEBTS OF INSOLVENTS.

Under the German bankrupt law the bankrupt debtor is not legally exempted from the unpaid balance of his debts. The object of the settlement in bankruptcy is, from a legal standpoint, to secure a fair and equitable division of such property as the bankrupt may possess. But the creditor who accepts a percentage of the amount due him does not thereby forfeit the right to sue for the unpaid balance of his claim.

The German law permits a forced compromise when a majority of the creditors insist upon it, and the minority is thus overruled. But in case of such a forced compromise the settlement is final; the percentage paid under it, whether large or small, definitely cancels the claim.

When a compromise is made with a bankrupt out of court, two forms of settlement are possible—

First. The debtor may pay a certain percentage of his debts and promise to pay the remainder in case he retrieves his position. This promise is no debt of honor, but a suable obligation, though when a creditor sues he is required to prove the financial ability of the defendant, and the court decides to what point this capacity to pay extends.

Second. The debtor may pay a certain percentage of his debt and promise to consider the remainder a debt of honor, in which the obligation of further payment is not suable, although, if necessary, moral suasion may be exercised to persuade the debtor to pay such debt of honor.

OUTLAWED DEBTS.

The larger part of such indebtedness would certainly not be paid.

PAYMENT OF DEBTS OF HONOR.

It can only be said that in general legal debts are far more likely to be paid than debts of honor. The notable exceptions to this rule are the obligations which occur among professional men, students, and military and naval officers, as well as gambling debts between men of high social posi-

tion. All these are in the highest degree sacred and binding; and they are paid at any sacrifice and in preference to legal indebtedness of a commercial character, for the reason that if repudiated or neglected they would ruin the social standing of the delinquent.

FRANK H. MASON,
Consul-General at Frankfort.

DEBTS NOT COLLECTIBLE.

In answer to the general interrogatory, what are the various obligations that have no legal or binding nature except the honor of the debtor? it may be said that the laws of the Grand Duchy of Baden acknowledge the existence of natural or moral obligations which do not establish any legal claim against others, and are consequently not collectible at law. But the party who has made payment and settled such an obligation can not contest it again and demand it back.

The exact character or nature of such moral or natural obligations is not clearly defined in the laws of Baden. In some particular cases the reclaiming of payment of obligations not collectible at law is expressly prohibited by the law, in harmony with the above-mentioned principle. Any claim, for instance, which is to be paid on a day certain can not be claimed before that day; but, if paid voluntarily in advance, it can not be recovered back in an action at law.

DRINKING AND GAMBLING DEBTS.

Gambling and betting debts are not collectible at law. But drinking debts or obligations are so collectible, for the law recognizes drinking establishments; and the municipalities receive in many cases revenue from them, and consequently must recognize them as legitimate business places.

PAYMENT OF DEBTS OF HONOR.

In regard to cases of insolvency and bankruptcy, parties retrieving their fortune very frequently settle up their old or outlawed debts—debts of honor—in full; but to what extent outlawed claims and debts of honor are satisfied by the debtor it is absolutely impossible to give any reliable information or statistics, as such cases, on account of their nature, do not come to the knowledge of the authorities or statisticians.

JNO. F. WINTER,
Consul at Mannheim.

DEBTS NOT COLLECTIBLE.

The various obligations which here have no legal or binding effect upon the debtor, except in so far as he feels constrained by his honor to meet

them, are in general those incurred in gambling, betting, or speculating in margins on the stock exchange, where the transaction is a purely speculative one unaccompanied by any delivery of merchandise or stocks or bonds; debts discharged by bankruptcy; outlawed indebtedness; debts of parents or family members which children or relatives undertake to pay when under no legal necessity to do so; obligations which a man feels called upon to fulfill towards a woman with whom he has had relations of an improper character, as by settling an income for life upon her, instead of marriage, in consequence of a child born being presumably his, though the paternity be not provable.

By debts of honor are understood here such obligations as are of moral force alone, unsustained by the law. In this city neither the Code Napoleon, which is in force, nor the common law of the land recognizes the term "debt of honor;" and a debt of honor is therefore not a debt cognizable by the courts. If, however, any person having a debt of honor gives a writing promising to pay it at a given time and this piece of writing comes into the possession, for a consideration, of a third party, it becomes mercantile paper, collectible at law as such. It ceases to be a debt of honor and becomes a legal obligation.

DRINKING AND GAMBLING DEBTS.

Gambling and betting debts are not collectible at law, except in the form of an I O U. If, therefore, one person gives another a written acknowledgment of debt, he can not afterwards avoid its payment by setting up as a bar to its discharge the defense that it was given in gambling or betting.

Debts incurred for drink are legal obligations.

DEBTS FOR PROFESSIONAL SERVICES.

Fees for professional services, such as those of lawyers and doctors, are recoverable at law.

DEBTS OF INSOLVENTS.

When a merchant fails and pays his creditors only a certain percentage of what he owes them, the remainder is not, as a general rule, considered a debt of honor which he ought to pay if he retrieve his fortune; but these outstanding uncollectible debts are frequently paid in Germany upon reversal of the preceding bad luck in business, and I understand that the honorable man always subsequently meets them when he can.

OUTLAWED DEBTS.

All honorable men consider outlawed debts as obligations they are *in foro conscientiæ* obliged to pay as soon as they are pecuniarily in a situation to do so.

PAYMENT OF DEBTS OF HONOR.

A so-called "honorary" debt is no more a debt of honor than is a legal obligation. It is therefore not paid any quicker. Men are, as a general rule, most disposed to pay that first which they can be compelled by legal means to pay.

JAMES H. SMITH,
Commercial Agent at Mayence.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are all those that can not be enforced, a definite enumeration or specification of which, however, I can not, from the nature of the case, give. The question might arise, in regard to a great variety of obligations not enforceable in law, as to whether or not they were, notwithstanding, obligations of honor. Examples of such are outlawed debts, debts of a bankrupt or insolvent, debts contracted by an infant, and all others belonging to the class of obligations as to which the law specially provides, on grounds of public policy, that they can not be enforced, and which are therefore discharged or not according to the pleasure of the debtor. I can not undertake to say, in behalf of this community, as to what precise extent honor is considered as being involved in this class of obligations. I do not think, however, that the views of the commercial community here on this subject would differ greatly from those prevailing in any other large center of trade; for example, in Berlin, Paris, London, New York, or Chicago. I should probably not go far wrong in saying that all moral and right-thinking persons would be of opinion that the refusal to discharge such obligations would be at the expense of the debtor's honor. All those who do not belong to the class of moral and right-thinking persons would probably take a different view. Debtors and creditors here and their respective friends, as I am informed, frequently entertain contrary views on the subject.

DRINKING AND GAMBLING DEBTS.

Drinking debts are not exempted by Bavarian law and can be collected like any other commercial debts. As to gaming debts, a distinction is made between (1) those which involve a certain amount of skill and dexterity of body or mind, such as shooting at target, billiards, chess, and the mixed games of cards—omber, piquet, and taroque—and (2) games of pure luck and chance. The former are to a large extent actionable, provided there is no taint of dishonesty or unfairness in the transaction and the amount involved is in proportion to the rank and position of the parties. Debts incurred in games of pure chance, however, can not be enforced in law. On the contrary, any money that has been paid can be recovered back. Betting debts are collectible under Bavarian law, unless made in some dishonorable

or immoral transaction. Excessive betting is, however, not sanctioned. The courts would undertake to say in a given case what is excessive and would reduce the amount to the proper limits.

DEBTS FOR PROFESSIONAL SERVICES.

So far as the question of honor is concerned, obligations for professional services stand, as I am informed, upon precisely the same footing as all other obligations.

PROPORTION OF DEBTS OF HONOR PAID.

It is impossible for me to say what amount of so-called debts of honor is incurred or assumed, or what proportion of those incurred or assumed is paid. The whole matter is beyond the domain of law and of public control, and no record or source of information on the subject exists to my knowledge. Whether or not a debt of honor is incurred or paid is usually known only to the parties immediately concerned. There is no material at hand, therefore, for an inquirer to base an opinion upon.

DEBTS OF INSOLVENTS.

I am not certain as to the precise meaning of this question, whether by debts of honor is intended to be understood all the debts that a person owes on becoming insolvent and on account of which he failed or whether some special class of debts is meant as to which it might be said that honor is involved. In either case it is impossible to state as matter of fact what is usually done. As to commercial debts which, on account of insolvency, have been legally settled by the payment of a certain percentage of their face, I should say that the balance of the indebtedness is more often not paid than paid, even if the debtors subsequently retrieve their position.

OUTLAWED DÊBTS.

I can safely say that all honorable persons would consider the fact that a debt was barred by a statute of limitations as morally no reason why the debt should not be paid. But, in order to determine whether such debts are actually paid, it is important to get at the opinions of the debtors on the subject. Certainly some of them take the view that it is not worth while to pay debts that the laws of the country do not recognize as subsisting. The proportion between those who take this view and do not pay and those who take the opposite view and pay it is impossible for me to give with any approach to accuracy.

In my judgment debts which can be enforced through the tribunals of of the country are more likely to be paid than any other.

F. W. CATLIN,
Consul at Munich.

HERR T. RIEGEL, ATTORNEY AT LAW, TO CONSUL CATLIN.*

HONORED SIR: After looking over the list of questions in regard to debts of honor, which you have just sent me, I am obliged to communicate to you that an answer to these questions for the whole German Empire is not possible, as there exists no civil law for the whole of Germany. I am therefore obliged to confine myself to the Bavarian provincial law (*Bayerische Landrecht*) of 1753, which prevails in Munich and in the greater part of southern Bavaria. The laws on the subject now do not, however, I think, vary greatly in the several jurisdictions. Before endeavoring to prepare a reply I have to say this: I should find much less difficulty in answering if a special case were presented, as it is almost impossible to give all the details required for a complete answer to these very general questions.

In regard to question 1, it is to be said at the outset that honor in itself does not form a sufficient basis for a legal obligation. From a legal point of view, debts of honor are of significance only when the debtor pledges his honor to the creditor for the fulfillment of an obligation already existing, founded upon a legal basis. But even in that case the pledge of honor has no legal consequences, does not involve infamous or disgraceful punishment, and can be used by the debtor only as a means of moral suasion. Of course, it is not meant that the nonfulfillment of obligations involving the honor of the debtor may not have important social consequences, as, for instance, discharge from employment; but these results do not rest upon any provisions of the civil law. There are certainly circumstances in the administration of justice which have only a limited operation in law, but contrariwise constitute the basis of a certain moral responsibility, particularly the so-called "natural obligations" (*naturlichen Verbindlichkeiten*). Here, however, the essential matter is that a judicial compulsion can only take place to the degree in which it is founded upon law, and no judicial compulsion is admissible as regards the remaining moral obligation. The most important of these natural obligations are those which have to do with rights which, legally considered, are obsolete, and which have the force of established principles of justice. Accordingly, if the claim of a creditor has become obsolete because he failed to press it within the period specified by law, then the creditor can no longer pursue his claim through action at law. On the part of the debtor, however, who in answer to a complaint has the right to put forward a plea founded on the obsoleteness of the obligation, there still remains a certain indebtedness, which, however, has the only legal consequence that the payment of any sum to the creditor in an obsolete obligation is not to be regarded as a gift. Such payment is to be regarded as the discharge of a debt which, considered from the standpoint of legal judgment, had been annulled. In like manner, when an heir renounces his legal right to reserve for himself one-fourth of the inheritance in payment of obligations, this is not to be regarded as a gift. A case of still greater importance is that of a minor son who has received a loan and who can plead, in answer to a claim for payment, that loans to minors are prohibited (*ex Senatus consulto Macedoniani*). Such a person has not the right, in case payment has been made, to demand reimbursement. A similar principle holds good as regards obligations incurred by minors without authorization from parents or guardians.

Question 2.—Drinking debts are not exempted by Bavarian law, and, like other commercial debts, are actionable at law. As regards gaming, the Bavarian law makes a distinction between what are called "Kunst-spielen," in which a certain skill and dexterity of body or mind are demanded (the games expressly included being shooting at target, billiards, chess, and mixed games, such as omber, piquet, taroque), and games of mere chance or hazard. The former are actionable in more extended relations and in so far as the obligation is only verbally expressed in the play, with a deposit of money, and the debt is considered according to rank, character, and property of the parties concerned. Games of chance, on the contrary, are not actionable at law; contrariwise, any sums paid in them can be demanded back. Bets are allowed by Bavarian law; but in certain things they are not available, and when they are excessively high they are not allowed, but may be reduced within moderate limits by official

* Translated by Vice-Consul Corning.

authority. Here, likewise, a "debt of honor" has no more importance than is above mentioned.

Question 3.—For services in the department of science or art the same rights and principles prevail as in industrial pursuits. A claim founded on such services is established and regulated in accordance with the terms previously agreed upon or by an estimate in an impartial judicial inquiry. For certain classes of experts in such matters there is a legal tariff of compensation. There is no obstacle thrown in the way of a demand for compensation for any scientific service. On the other hand, no one in whose interest such service is performed is obliged to pay more than was agreed upon or than appears reasonable.

Question 4.—From the foregoing observations, it will be seen that independent debts of honor do not exist. Into such obligations partial payments can not enter. Either we have to do with real legal obligations, in which case they must be discharged to their full extent, or, on the other hand, we have only a limited obligation in which there is no legal force, in which case there is no residue of compulsory debt, but only a moral obligation, for whose fulfillment the creditor must rely wholly upon moral suasion. Thus, for example, there is no legal compulsion of payment for debts contracted in prohibited games of hazard, even in cases where the losing debtor has admitted a debt of honor. Every complaint of the winning creditor made as a claim for payment must be excluded; yea, every counterclaim of the loser upon the winnings already paid is entertained. The creditor has no redress, except that of threatening the debtor with the social penalties which may follow upon the breaking of his word of honor.

Question 5.—This question is to be answered in accordance with the foregoing observations, as follows: Real debts, for whose payment the debtor has pledged his honor, have the same efficacy as those in which no such pledge has been made. Hence in a legal and final conference of the creditors concerning obligations which have again come into force the debtor will have to consider the debts as revived. Debts of honor which have no force in law have, of course, no more efficacy after an assignment than they had before, and their payment afterward, as before, depends on the pleasure of the debtor. It should be observed that the payment of a natural obligation on the part of the debtor gives no right of opposition to the creditors in any subsequent assignment.

Question 6.—The inability of the debtor to pay, whether this inability is caused through his own fault or not, necessitates an assignment, in which creditors find satisfaction of their claims according to the measure of their credit and the available assets. If the negotiable assets are not sufficient for a complete satisfaction, the creditors have the reserved right to seize any property which the debtor may come into possession of, on which they can directly impose compulsory execution. A debt of honor in payment of the outcome of an assignment to creditors is not recognized here from a legal point of view, although, of course, every general debtor actuated by a sense of honor, should he ever come into possession of property, would recognize it as a duty to use it to the end of entire solvency. This obligation falls rather under the head of general legal debt, in relation to which all creditors whose claims have not been completely satisfied have a right to put forward their demands after the procedure of assignment (not, however, in the case of a preëxisting compulsory contract); consequently the creditors in an assignment, through registering their claims in the list of legal demands, can maintain a claim through compulsion upon any newly acquired property.

Question 7.—This question, according to the considerations already mentioned, is indefinite; for, in case an assignment has taken place, mere debts of honor or the above-mentioned natural obligations are, of course, not to be considered with strictly legal obligations. If the debtor has ability to pay, on the contrary, the obligation is a moral one, and the question of payment and the measure thereof is one to be referred to his good pleasure.

A more detailed answer to the questions proposed is not practicable within the limits of a communication like the present.

With high esteem, etc.,

T. RIEGEL.

GREECE.

Gambling and betting debts are those which have no legal standing.

Drinking debts are collectible at law; gambling and betting debts are not.

Professional services are covered by law.

Gambling debts are pretty generally paid. Betting is little known.

In cases of insolvency, even should the debtor retrieve his position, debts of honor are not paid.

Practically there is no outlawed indebtedness, the law affording facilities for keeping obligations alive and the Greeks being alert to use them.

IRVING J. MANATT,
Consul at Athens.

ITALY.

DEBTS NOT COLLECTIBLE.

The financial obligations that have no legal or binding nature except the honor of the debtor are:

(1) Those which have no legal sanction, owing to lack of legal status in the person bound, such as a minor or a married woman without her husband's sanction.

(2) Those which have no legal basis on account of noncompliance with formalities prescribed by law, viz, donations and obligations concerning real estate not by public deed.

(3) Those forbidden and consequently declared void by law.

(4) Those generally considered in violation of moral laws or public welfare.

However, not all the aforementioned obligations are strictly moral or classified as debts of honor. In some there may be a *turpis causa*, and some may be against public order or enacted laws. Debts of honor are really limited to those emanating from gambling and betting.

DRINKING AND GAMBLING DEBTS.

Liquor debts incurred with retailers of malt and vinous liquors are binding, except when contracted by a minor, an insane person, or a married woman and not for family use.

Gambling and betting debts are debts of honor, and the civil code provides for them as follows:

The law does not give any countenance or legal sanction for the payment of debts incurred by gambling or betting.

Exception is made for games or plays of corporal exercise such as tennis, football, cricket; foot, horse, running, and trotting races. However, the judges may reduce the demand for payment when they deem the amount claimed as excessive.

In any event the loser is not entitled to the return of what was spontaneously paid by him, provided there should be no fraud or trick on the part of the winner, and that the loser should not be a minor or in any way mentally deficient.

It has been propounded to the Italian courts whether speculation on the fluctuation of stocks is to be considered gambling. The courts are usually inclined to consider these obligations legal and binding, it being difficult to ascertain from the form of bourse operations whether the parties meant a real or fictitious transaction.

Among stock-exchange brokers professional debts are debts of honor.

DEBTS FOR PROFESSIONAL SERVICES.

Professional services rendered by physicians and lawyers to the poor are considered of a moral character, and therefore not debts of honor on the part of the recipients. Lawyers, in turn, are to render their services gratuitously to the poor. With these exceptions, debts incurred for professional services are debts of honor.

PROPORTION OF DEBTS OF HONOR PAID.

Among the higher classes debts of honor are paid before any others. A few popular banks try to establish a system of "loans of honor," consisting of small amounts for laborers who have no security to give. Borrowers thus far are usually found to be faithful to their obligations. The members of clubs, casinos, and other associations who fail to pay in full their debts of honor are expelled, subject to readmission when fully released by the creditor.

OUTLAWED DEBTS.

Not all outlawed debts are considered debts of honor. A person failing to cancel moral debts is considered of questionable honor. A person not paying debts of honor is held to be dishonest.*

JAMES VERNER LONG,
Consul at Florence.

NETHERLANDS.

DEBTS OF HONOR.

There are but three articles in the laws of the Netherlands which in any wise relate to debts of honor. In substance these articles are as follows:

The law recognizes no claim in cases of debts of honor—gambling and betting—except such debts as have been incurred in connection with wholesome games tending to exercise and develop men's bodies, as, for example,

*I am indebted to Comm. Prof. Advocate Odoardo Luchini, deputy to the Italian Parliament, for much of the information herein given.—J. V. L.

fencing or racing. In such cases the judge is empowered to nonsuit or diminish any given claim deemed by him to be exorbitant.

A person who has voluntarily paid any debt of honor may not legally reclaim from the winner, unless it can be shown to the court that the winning was accomplished through fraud, artifice, or swindling.

Answering the seven interrogatories of the Department circular relating to debts of honor as fully as I am able after conversation with a Dutch attorney, who gave to my questions much attention and study, I report:

The obligations, other than gambling obligations, which, under the laws of the Netherlands, have no legal or binding nature except the honor of the debtor, are those called in Roman law *obligationes naturales*. There are three descriptions of such *obligationes naturales*, as follows:

(1) Where there is failure or defect in the form of the obligation.

(2) In the case of incompetency to have and to exercise civil rights.

(3) In cases wherein a claim becomes prescriptive—pleading the continuance and authority of custom. As to this latter, that an *obligatio naturalis* remains when the claim becomes prescriptive the highest authorities, as I am told, and as doubtless American lawyers know, radically disagree.

Drinking debts are collectible at law in the Netherlands.

There are no obligations for professional services that are deemed to be debts of honor, all such debts being legally collectible.

PAYMENT OF DEBTS OF HONOR.

Debts of honor, whenever paid at all, are almost invariably paid in full. In cases of insolvency debts of honor are usually not paid, though the debtor retrieve his fortune. Outlawed indebtedness is not deemed to be a debt of honor and is not paid. Debts of honor are much oftener satisfied in full, in proportion to the amounts involved, than legal debts.

WALTER E. GARDNER,
Consul at Rotterdam.

RUSSIA.

The term "debts of honor" is entirely unknown to the law for the Baltic provinces of 1864. If an obligation is legal, it is collectible at law, otherwise not. In practice no special class of honorary debts has been developed.

GAMBLING AND DRINKING DEBTS.

Illegal and not collectible at law are gambling and, under certain circumstances, betting debts. Debts incurred for liquors are only in exceptional instances not collectible. For instance, such debts contracted by the students at the university at Dorpat can not be collected at law. Liquors must not be delivered to workmen on credit, and, if delivered, the debt is not collectible.

The law prohibits gambling, that is to say, where the gain merely depends on chance, and such debts are to such a degree inefficient that the debtor is under no obligation to pay; but the money, if already paid, can be reclaimed from the gainer or his heirs. Debts incurred in legal games can not be reclaimed when once paid; but such debts are neither collectible at law, nor can they be used as a counterclaim. In legal games the amounts at stake must not exceed the means of the players, and a transgression of this has the same effect as results from illegal games.

According to the law, gambling differs from betting in so far as in the first case the issue is dependent upon a future uncertain matter of fact, whereas in the second case the matter of fact has already occurred and is certain, but only in dispute between the parties concerned. The bet is only invalid and not collectible when the sum at stake exceeds the means of the betters, which is within the discretion of the judiciary to determine.

DEBTS OF INSOLVENTS.

In case of bankruptcy the debtor is not liberated from the debts remaining after distribution of his estate between the creditors; the indebtedness thus remaining is collectible at law if the means of the debtor improve.

OUTLAWED DEBTS.

According to the law, a claim is prescribed after ten years; but this term is interrupted by reminding, by suits, by partial payments, or payment of interest, and the ten-yearly term commences anew from that moment. Thus the prescription seldom occurs, and when it does occur debts affected by it are seldom paid.

PAYMENT OF DEBTS OF HONOR.

In consequence of debts of honor not coming into the courts, it is difficult to give any satisfactory answer to interrogatories Nos. 4 and 7, especially as these affairs are treated quite in confidence between the parties concerned.

N. A. BORNHOLDT,
Consul at Riga.

SPAIN.

DEBTS NOT COLLECTIBLE.

The following debts are, according to Spanish laws, not collectible at law, and are therefore debts of honor:

(1) Debts arising from contracts made by minors, *i. e.*, by persons not yet having completed their twenty-third year. Minors may legally contract debts (*a*) if consent to the contract is given by parent or guardian, or (*b*) if legally emancipated. The minor is, however, legally liable to the extent he may have enriched himself by the objects or money received in consequence

of the contract, but he is never liable for a greater sum than that received from the creditor.

(2) A husband is not legally, but is in honor, bound to pay the debts contracted by his wife without competent authority, express or implied, unless the wife possesses separate property of not merely nominal value. But the husband is not even in honor bound in case he has given notice not to trust the wife.

(3) Debts contracted against morality, having resulted, for example, in the seduction or prostitution of women, or the publication or sale of obscene books or pictures.

(4) Debts resulting from contracts having for an object the breaking of the public peace or good order of society, or the giving aid and comfort to an enemy in time of war.

(5) Debts impossible to prove for want of documents, witnesses, or other evidence.

(6) Debts resulting from contracts informally executed. But these are seldom debts of honor, as the creditor has the privilege of compelling, within reasonable time, the other party to execute the contract in the manner and form prescribed by law, converting, for example, an oral contract into a notarial contract, in case the latter is legally required.

(7) Debts for the recovery of which no action has been brought within the period of time prescribed by law.

(8) Debts of a bankrupt remaining unpaid after a compromise with his creditors executed under judicial authority and superintendence. To compel creditors to enter into a compromise at least one creditor over and above one-half of the entire number of creditors and representing not less than three-fifths of the aggregate indebtedness of the bankrupt must be in favor of the compromise. In all other cases of bankruptcy the bankrupt remains legally indebted to the extent that his debts remain unpaid after his estate has been wound up.

GAMBLING DEBTS.

The law of Spain does not authorize actions at law to recover gambling debts; but he who loses at games of hazard or chance and voluntarily pays the sum lost can not reclaim it, unless he is a minor or other person legally deprived of the administration of his property, or unless fraud or deceit has vitiated the game. Gambling debts are therefore debts of honor. Bets, in so far as they resemble the prohibited games, are likewise mere debts of honor. Not prohibited are games contributing to the development of bodily strength and agility, such as sword practice; racing on foot, on horseback, or in carriages; games of ball, and others of similar nature. He who loses in a game not prohibited is legally bound to pay. The judicial authority, however, may not entertain an action for such losses in case the amount at stake should be considered excessive, or the tribunal may reduce the amount. To the extent of this reduction betting debts on legal games are debts of honor.

DRINKING DEBTS AND DEBTS FOR PROFESSIONAL SERVICES.

All debts for drinks and those for all professional services are debts collectible by law and therefore not debts of honor.

DEBTS OF INSOLVENTS.

Insolvents who afterwards retrieve their position will not usually pay their debts of honor incurred before the act of insolvency, and, as a rule, the older the debt and the longer the time which has elapsed before the insolvent retrieves his position the less is the chance that the debt will be paid.

PROPORTION OF DEBTS OF HONOR PAID.

About 90 per cent of the gamblers pay their gambling debts, and when these are paid at all they nearly always are paid in full. Of all other debts of honor, not gambling debts, probably not more than from 25 to 30 per cent are paid. It is estimated that not more than 10 per cent of the debts of honor of the class of insolvents mentioned are paid.

The foregoing estimates of the percentages paid on the different classes of debts of honor refer to the district of Denia exclusively. I am informed on good authority that these percentages are different in other parts of Spain, particularly in the larger cities.

OUTLAWED DEBTS.

Debts of honor being defined as debts not collectible at law and "outlawed" debts being by their very name not so collectible, they must of necessity be considered in all places, at all times, and under all circumstances debts of honor to the full extent of the meaning of that term.

With the exception of gambling debts, honorary debts are not more generally satisfied in full than legal debts in proportion to the amounts involved.

OSCAR MALMROS,
Consul at Denia.

SWEDEN.

DRINKING AND GAMBLING DEBTS.

A running account at a grogshop can not be collected at law. The object of the law in this case is to discourage overindulgence among the working people. The same can be said concerning gambling and betting debts.

DEBTS FOR PROFESSIONAL SERVICES.

The amount due for services of a physician is considered a debt of honor. It is always left to the individual served to decide how much he

will pay, but it is expected that offer of payment will be made at the end of each year. Failure to do so, however, settles the account, as no physician would attempt to collect it, it being considered a debt of honor.

JOSEPH EDWARD HAYDEN,
Consul at Stockholm.

SWITZERLAND.

The seven interrogatories of the National Board of Trade concerning debts of honor may, as to Switzerland, be answered in a general way as follows:

The various obligations that have no legal or binding nature except the honor of the debtor are gambling, betting, and drinking debts; they are not collectible at law.

By custom there are some obligations for professional services that are debts of honor.

The extent, in proportion to the amount incurred or assumed, to which debts of honor are paid is very great.

In case of insolvency debts of honor are usually paid if the debtor subsequently retrieves his position.

To a great extent outlawed indebtedness is considered a matter of honor and paid.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

I may add that under the general Swiss law no matters or things can be the subject of a contract that are impossible of themselves, contrary to law, or against public morals. No legal demand can be made for payment of gambling and betting debts. The same is true of loans and advances knowingly made for gambling and betting purposes. Wares and papers bearing the character of gaming or betting on the stock exchange come under the same head. Lottery debts can only be legally demanded in cases where permission for the undertaking has been granted by the proper authorities. Nor can notes signed and given to cover betting or gambling debts be collected by law. If, however, money for gambling or lottery debts has been voluntarily paid, it can be demanded back only in cases where it can be shown that the whole proceeding was illegal or that the receiver was dishonest in obtaining it.

S. H. M. BYERS,
Consul-General at St. Gall.

TURKEY.

Debts which have no legal standing are gambling, betting, and stock-exchange operations.

Drinking debts are collectible at law, and so are those for professional services. When a physician or lawyer, however, has stipulated for a high

rate of fees with his client or patient, these fees can be modified by the judge. The decision of the judge fixes the sum due, according to equity and justice, in the light of the special circumstances attending the matter in dispute and consistent with the existing tariff fixing such rates.

WM. ALBERT,
Vice-Consul-General at Constantinople.

UNITED KINGDOM.

ENGLAND.

DRINKING AND GAMBLING DEBTS.

Under 30 and 31 Victoria, called the tippling act, no action can be brought to recover money for ale, porter, beer, cider, or perry consumed on the premises. Gambling and betting debts can not be recovered.

DEBTS FOR PROFESSIONAL SERVICES.

The services of barristers are regarded as debts of honor, their fees being paid to them as a kind of honorarium supposed to be handed with the brief, but can not be sued for at law.

PAYMENTS OF DEBTS OF HONOR.

As to the extent to which, in proportion to the amount incurred or assumed, debts of honor are paid, I have no means of knowing; but it is supposed that gentlemen frequenting the turf and cricket and football matches largely meet their betting obligations. It is, however, a question as to the extent of honor the losing party may possess.

In cases of insolvency debts of honor are very seldom paid if the debtor subsequently retrieves his position.

Honorary debts are not more generally satisfied in full than legal debts in proportion to the amount involved.

JOHN JARRETT,
Consul at Birmingham.

DRINKING AND GAMBLING DEBTS.

Drinking debts are collectible at law, though gambling and betting debts are not.

DEBTS FOR PROFESSIONAL SERVICES.

The barrister and the physician do not sue for professional debts due them, but the tendency of the times is to break down all artificial distinctions and to place the barrister and the doctor upon the same footing as other professional and business men. If my memory does not lead me astray, a physician in London did sue a year or two ago for his account and obtained judgment; nor did the faculty subsequently take action against him. It must be remembered that up to a recent period there was a sharp line drawn

between the physician and the surgeon, and that the surgeon was not and is not subject to the same disability in regard to suing as the physician. But most surgeons now take out also the doctor's degree; and, with other distinctions now being broken down, the doctors' disinclination to sue will fall. The tendency of the times is to give the barrister the same opportunity as everybody else of recovering in the courts sums due him professionally.

PROPORTION OF DEBTS OF HONOR PAID.

It is impossible to present any exact answer to a question asking what proportion of debts of honor is paid. In some classes of cases—for instance, where men of repute would underwrite illegal marine risks as, for instance, blockade-runners—such obligations would, in case of loss of vessel, be paid with promptness. Gambling and betting debts are usually paid in full. The penalties of social ostracism are so severe against a defaulter in England that the most reckless of gamesters will pay his debts of honor—while his tradesmen seek in vain for their money.

DEBTS OF INSOLVENTS.

If a debtor be declared a bankrupt in England, debts of honor are, of course, not proved against him; and they remain unsatisfied and still due. It is obvious, however, that no certain answer can be given about matters usually kept secret.

OUTLAWED DEBTS.

The public sense is strong against pleading the statute of limitations, and it is usually pleaded only to get rid of a claim that the debtor objects to on other grounds. No man in England with a social or commercial position to lose could afford to plead the statute against a just claim.

PAYMENT OF DEBTS OF HONOR.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved. But this can obviously only be an expression of opinion at best, and I am led to form this opinion from general knowledge of public opinion upon the relative importance of the two classes of debts. My belief is that most Englishmen would pay their debts of honor before they would pay their legal debts. It is, however, understood that book-makers, who arrange racing bets for the public, lose largely by bad debts.

LORIN A. LATHROP,
Consul at Bristol.

In response to circular letter from the Department, dated March 6, 1892, the following replies are transmitted, received from the West Riding Bankers', Merchants', and Traders' Association for the Protection of Trade; from Messrs. Bulmer & Lawson, solicitors, the senior member of the firm being clerk of the peace; from John Bowling, esq., the official receiver in bankruptcy and a practicing solicitor; and from Stubbs' mercantile offices,

which hold a place in Great Britain like those of Dun's and of Bradstreet's in the United States.

(1) What are the various obligations that have no legal or binding nature except the honor of the debtor?

To this interrogatory Mr. George Fillingham, secretary of the West Riding Bankers', Merchants', and Traders' Association, answers: "Gaming and wagering contracts. But there have been decisions that money, under circumstances, may be recovered in certain betting transactions."

Messrs. Bulmer and Lawson, solicitors, answer: "The obligation of a solicitor to pay a barrister or counsel's fees; to pay betting debts, also sums owing for small quantities of intoxicants not drunk on the premises; to pay money to a woman in consideration of future cohabitation, etc."

John Bowling, esq., official receiver in bankruptcy, answers: "Debts incurred in respect of the following illegal considerations are not recoverable: Where consideration is immoral; where consideration is contrary to public policy (acting in restraint of trade or marriage, prejudicially to the revenue of the country, or preventing or impeding public justice, etc.); where consideration is induced by fraud."

The manager of Stubbs' mercantile offices answers: "Obligations without any consideration to support them are not actionable."

(2) Are drinking, gambling, and betting debts collectible at law?

To this interrogatory Mr. Fillingham answers: "I assume drinking here means obligations incurred at retail houses. Speaking generally, I answer the question in the negative."

Messrs. Bulmer & Lawson answer: "No, except as to drinking debts in large quantities not to be drunk on the premises; and, as to gambling or betting debts, when an agent has actually paid the debt at the request of another, he can legally recover the amount from his principal."

Mr. John Bowling answers: "Debts for drink only sold on credit and consumed on the premises of a hotel, inn, or beerhouse are not recoverable; but in the case of a licensed victualer providing food and liquors to a guest or traveler the amount of the bill is recoverable. Gambling and betting debts are not recoverable at law."

The manager of Stubbs' answers: "The courts of law will not enforce payment of moneys won by betting, etc., as between the parties; they are debts of honor only. I do not know what drinking debts means."

(3) Are there any obligations for professional services which are debts of honor?

To this interrogatory Mr. Fillingham answers: "Fees paid to counsel for advocacy are honorary. A physician who is registered under the 21 and 22 Vict., c. 90, and who is not prohibited by the by-laws of any college of physicians from suing for his fees can recover such fees in all cases."

Messrs. Bulmer & Lawson answer: "Only those between solicitor and counsel."

Mr. John Bowling answers: "The fees of barristers at law and consulting physicians."

The manager of Stubbs' answers: "Yes; those rendered by counsel and by physicians. These are prohibited from suing for their fees."

(4) To what extent, in proportion to the amount incurred or assumed, are debts of honor paid?

To this interrogatory Mr. Fillingham answers: "I can not say definitely. As to the fees of professional men, cases of nonpayment are extremely rare. I do not know of a single instance."

Messrs. Bulmer & Lawson answer: "Difficult to say. The great majority, we believe, are paid."

Mr. John Bowling answers: "I can not give any information in answer to this, not having any means of knowledge on the subject."

The manager of Stubbs' answers: "Not at all. The whole matter is one of honor solely."

(5) In cases of insolvency, are debts of honor usually paid if the debtor subsequently retrieves his position?

To this interrogatory Mr. Fillingham answers: "I am aware of several cases where this has not been done."

Messrs. Bulmer & Lawson answer: "We believe very seldom."

The manager of Stubbs' answers: "There is no general rule. Each case would depend upon the circumstances and the honor of the individual."

(6) To what extent is outlawed indebtedness considered a matter of honor and paid?

Messrs. Bulmer & Lawson answer: "Can not say; but we should think very seldom."

(7) Are honorary debts more generally satisfied in full than legal debts in proportion to the amounts involved?

To this interrogatory Mr. Fillingham answers: "I believe there are a great number of people who are more anxious to pay their debts of honor than their legal debts."

Messrs. Bulmer & Lawson answer: "Honorary debts are so small in number and amount, compared with legal debts arising in business transactions, that they are scarcely worth consideration by way of comparison."

Mr. John Bowling answers: "Men of the sporting class will pay their debts of honor in preference to others, no doubt, in proportion to personal risks or advantage. If such debts were not paid, the parties would not be recognized again amongst their fraternity."

The manager of Stubbs' answers: "This is no question of law; it is one purely of morals."

F. H. WIGFALL,
Consul at Leeds.

DRINKING AND GAMBLING DEBTS.

Drinking debts are not collectible if the drink is of an intoxicating nature and consumed on the premises where sold. Gambling and betting debts are not directly recoverable by law, although the judges have sanctioned actions

which are indirectly founded on such claims. The following examples will probably explain the law on this subject: If A bets with B and loses, B can not recover; but if B pays money to C which has been lost on a bet made with the latter by B on A's behalf, B can recover such money from A.

While on this head, it might be as well to mention that a few days before the preparation of these answers (April 11, 1892) a bill which had already passed the House of Lords was read a third time in the Commons making agency wagers as irrecoverable in the courts as those made between principals, and it appears probable that such bill will be included in the next batch of measures receiving the royal assent.

DEBTS FOR PROFESSIONAL SERVICES.

The fees payable to barristers at law are debts of honor. The position of this matter is as follows: The fee payable to a barrister is an honorarium, but he can not be sued for negligence with respect to the conduct of work with which he may be intrusted. Of course, if the solicitor who employs him has received fees intended for him, the barrister can sue for money had and received to his use; and in any event the latter can lay cases for non-payment before the law societies, who will generally use what influence they possess to see that the barrister is treated fairly. Barristers very seldom adopt the former of the two courses, viz, suing for money had and received to their use.

THOS. H. SHERMAN,
Consul at Liverpool.

IRELAND.

DEBTS NOT COLLECTIBLE.

In Ireland there is no obligation to pay—

(1) Debts barred by statutes of limitation. Six years bar ordinary debts and twenty years debts under seal or recognizances. An acknowledgment in writing signed by the person chargeable thereby during either of these terms, or part payment of the debt, or payment of interest on account will revive the debt, and the statute will then commence to run anew.

(2) Small debts for intoxicating liquors are irrecoverable under the "tippling act." Over 20*s*. they are recoverable, provided it is for one entire and complete order.

(3) All bets and wagers, though made upon a lawful game, are now invalidated. No action can be brought for recovering any money, stakes, or valuable thing won upon a wager.

(4) Debts payable by an arranging trader who has paid a composition and carried his arrangement, or a bankrupt who has paid his composition and got his certificate.

(5) A legacy left by a deceased for the benefit of a charity, the deceased having died within three months from the making of his will. The charitable bequest is not legally payable, and it becomes a matter of honor whether

the person deriving benefit by reason thereof should pay the bequest to the charity.

(6) Debts contracted by a minor, not being for necessaries.

PAYMENT OF DEBTS OF HONOR.

It is exceedingly hard to approximate the proportion of the amounts of debts of honor incurred to the amount paid. The greater proportion of these debts of honor arises from bankruptcies or over betting transactions. A man once a bankrupt seldom again obtains an affluent position. It is not an uncommon thing for a bankrupt, if he is so fortunate, to pay all his liabilities in full. With regard to betting transactions, it is safe to say that over 95 per cent of the bets laid are paid. A case of outlawed indebtedness being paid is scarcely known.

With regard to debts of honor which arise out of betting transactions, they seem to be more generally satisfied in full, in proportion to the amounts involved, than legal debts; but scarcely so with regard to the other debts of honor referred to, with the exception of debts due barristers at law.

SAMUEL G. RUBY,
Consul at Belfast.

DEBTS NOT COLLECTIBLE.

Among the various obligations which in this country have no legal or binding nature except the honor of the debtor are:

(1) Gambling and betting debts which depend on chance.

(2) Debts incurred for drink supplied and consumed on the premises of a retail house licensed for the sale of liquors. These are not enforceable at law as between vender and purchaser in civil action after the purchaser has left the house, but he can be proceeded against criminally if it is clear that he obtained drink with the intention of defrauding.

(3) Debts for money lent on goods sold to minors or for goods sold to married women if extravagantly unsuitable to their rank in life.

(4) Debts for services or acts performed without request from the person directly or indirectly benefited thereby, in which cases no subsequent promise to pay for the act or service will in law bind the person benefited, unless such promise is evidenced by writing executed in manner prescribed by statute.

(5) Debts or contracts involving immoral purposes; indemnifying against consequences from publishing a libel; indemnifying a sheriff or other officer from consequences of permitting a prisoner to escape or a criminal to go at large; tending to interfere with the performance of any public duty; for restraint of trade or from earning a livelihood; for inducing any creditor to abandon opposition in bankruptcy proceedings; for anything opposed to an act of Parliament, etc.

DEBTS FOR PROFESSIONAL SERVICES.

Fees due to certain classes of professional men are not collectible at law. A physician can not sue for his fees if the institution of which he is a graduate prohibits such a proceeding. Those due to a barrister for professional services he can not collect by law from the client, but he may sue a solicitor having charge of the case who has been paid the fee for counsel by the client. Fees for barristers are always indorsed on the briefs, so this rule of law is never enforced.

PAYMENT OF DEBTS OF HONOR.

There are no statistics showing to what extent debts of honor are paid. It is, however, the general opinion that about half of such debts are paid sooner or later. Very often, in "good society" especially, they are discharged, I am informed, to the prejudice of more legitimate claims, notably tailors' and shoemakers' bills. In cases of insolvency, debtors who retrieve their position sometimes, but it is believed not generally, pay their debts of honor. Those who do pay, I am told, are usually "club men" and others of similar class, who would not be socially tolerated in their set if they left such debts unpaid. I find myself unable to say to what extent outlawed indebtedness is considered a matter of honor and paid. "Not at all, I should say," a prominent real estate agent and stock broker of Cork remarked to me when I put the question to him. Debts of honor are usually paid in full, if at all, as it would not be thought that such a debt was honorably discharged if it were only paid in part.

JOHN J. PIATT,
Consul at Cork.

It is difficult, so far as Ireland is concerned, to give specific and complete answers to some of the interrogatories submitted, owing to the want of authentic statistical information. The answers herewith submitted are as comprehensive as they can be made under the circumstances.

DEBTS NOT COLLECTIBLE.

The interrogatory as to the various obligations which have no legal or binding nature except the honor of the debtor opens up the question of the observance of contracts which are void either at common law or by statute. A contract which is void has no legal effect and binds neither party, so that its performance depends upon the honor of the contracting parties. Such contracts may be briefly summarized as follows: Generally speaking, all contracts entered into for the performance of an immoral act or an act which is contrary to an act of Parliament or to the public policy of the common law are void and have no legal binding effect; thus—

Immoral contracts are illegal. Bonds, agreements, and guaranties to indemnify persons against the consequences of their illegal acts are void,

as a contract to indemnify a man against the consequences of publishing a libel or to indemnify a sheriff or other officer of the law against the pecuniary consequences resulting to himself for his permitting a prisoner to go at large or committing any other breach of duty.

A promise of a client to his solicitor to make him a present beyond the scale of ordinary legal remuneration is void, as being contrary to the public policy of the law; and so are all contracts between solicitors and clients for the purchase of property from the client and all contracts prejudicial to the interests of the public, such as a contract tending to prevent free competition or to influence improperly the performance of public duties, as a contract with a member of the legislature to induce him to vote in a particular way.

Contracts in restraint of marriage, as being opposed to public policy, are void, except where the restriction is against marriage with one specified person.

Contracts for maintenance and champerty are void, as contracts to furnish money to aid and assist in the prosecution of lawsuits in which the party making the agreement is nowise interested and with which he has no just or reasonable ground for interference, or where a person unwarrantably agrees to furnish money to aid in the maintenance of a lawsuit and is to share in advantages thereof.

Contracts obstructing or interfering with the administration of public justice are also void, as agreements to pay money to induce a party to suppress evidence or to give evidence in favor of one side only; likewise contracts prohibiting parties from bringing an action or purporting to oust the jurisdiction of the courts, except agreements to refer existing or future differences to arbitration.

Contracts in fraud of masters and employers are void, as contracts and agreements to recommend parties for employment in offices of trust in consideration of the payment of money, or to pay money in consideration of such recommendation entered into without the knowledge of the employer.

Contracts in general restraint of trade and industry, preventing parties from gaining a livelihood in any particular vocation, are void.

Contracts for trading purposes with subjects of a sovereign who is at war with this country are void and can not be enforced here on the return of peace, unless made in pursuance of a license to trade granted by the Crown.

Contracts in contravention of the policy of an act of Parliament are, as before mentioned, illegal, such as the securities for the payment of money to a particular creditor to induce him to withdraw his opposition to a bankrupt's discharge or to abandon proceedings in bankruptcy, etc.; so also contracts for the evasion of the registry, licensing, and excise acts.

Generally speaking, everything in respect to which a penalty is imposed by statute must be taken to be a thing forbidden, and agreements to do such things are absolutely void. Thus agreements for illegal partnerships are void; for the assumption of the liability on account of the absence or insuf-

ficiency of any stamp duty on an instrument in writing; gaming and wagering contracts, except agreements to subscribe or contribute towards any prize to be awarded to the winner of any lawful game, sport, pastime, or exercise. But all bets, even at lawful games, such as horse races, steeple chases, and foot races, are illegal. Notes, bills, and mortgages given to secure money won at or lent for play are void as between the original parties, and money knowingly lent for gaming can not be recovered.

Lotteries being illegal, contracts with respect to them are void.

Contracts for sale of illegal and unjust weights and measures are void.

The weight and measure act, 1889, requires all coal to be sold by weight and not by measure, except under certain conditions, and a penalty is imposed on those who sell otherwise.

Contracts in contravention of the revenue laws by smuggling are void; thus if a foreigner makes himself a direct party to the act of breaking them, he can not here recover the fruits of his illegal act.

Contracts for prohibited services, as unauthorized medical practitioners, uncertified solicitors, and brokers, are illegal, and the stipulated remuneration can not be recovered.

Contracts for the payment of work otherwise than in the coin of the realm are illegal, the object being to give the workmen full remuneration for their labor.

As regards foreign contracts, it is a general rule that they will not be enforced unless they are valid by law both of the country in which they are made and of that in which it is sought to be enforced.

The foregoing will show the general nature and character of contracts the performance of which is optional with the contracting parties.

DRINKING AND GAMBLING DEBTS.

Drinking, gambling, and betting debts are not collectible by law. The statutes 55 Geo. III, c. 104; 59 Geo. III, c. 106; and 37 and 38 Vic., c. 69, regulate drinking debts, the effect being that no person can recover any sum of money or demand for or on account of any "spirituous liquor" sold in Ireland in any quantity "less than 2 quarts at any one time," where the same shall be used and consumed in the house, shop, or premises in which the same are sold. Tippling debts can not, therefore, be recovered at law. The words "spirituous liquors" are included in the definition of "intoxicating liquors," which is defined as "spirits, wine, beer, porter, cider, and any fermented, distilled, or spirituous liquors which can not, according to any law for the time being in force, be legally sold without a license from the inland revenue."

The statute 8 and 9 Vic., c. 109, regulates gaming and betting debts and enacts that no action or suit shall be brought or maintained for recovering money or any valuable thing alleged to be won upon any wager, or which shall have been deposited in the hands of any person to abide the event on which any wager shall have been made. It has been decided by the courts,

however, that the statute against gaming does not prevent a person who has employed another upon commission to make bets for him from recovering from such person the winnings which he has received on his behalf.

DEBTS FOR PROFESSIONAL SERVICES.

If the employment is by custom of a purely gratuitous character, the prima facie presumption of a hiring is rebutted as soon as the custom is proved. The office of arbitrator is deemed to be honorary; and a person who acts as such can not charge for his services, unless there was a promise to pay him for his trouble.

Barristers likewise exercise a profession of an honorary character and can not maintain an action for remuneration for advice or advocacy or for services auxiliary to the service of an advocate, although there be an express contract to pay them a stipulated sum for such services.

A physician can now sue for his services if he is registered under the medical act and is not prohibited by the college to which he belongs from bringing an action for his charges. The law here suggests no implied promise of remuneration in respect of the service of public officers. Where, therefore, a duty is imposed by statute upon a public officer and no provision is made for the payment of any remuneration, no action can be maintained for it.

PAYMENT OF DEBTS OF HONOR.

In the absence of statistics, it is difficult to say to what extent, in proportion to the amount incurred or assumed, debts of honor are paid; but, from inquiries and from the absence of complaints, they appear to be generally discharged. In cases of insolvency, where the debtor subsequently retrieves his position, to a certain extent debts of honor are paid, that is, the difference between the composition paid and the full debt, but not generally. From inquiries it appears that honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

ALEX. J. REID,
Consul at Dublin.

SCOTLAND.

DEBTS NOT COLLECTIBLE.

The following will not sustain an action in court:

(1) Obligations to give, do, or abstain from doing which are against the express prohibition of a statute.

(2) *Pactum de quota litis*, or a bargain by an advocate or law agent to receive, in remuneration of his personal services, a share of the subject in contest.

(3) An obligation by a client to pay to his agent a sum of money as a gift in addition to his ordinary business charges.

(4) Gambling and betting debts.

DRINKING AND GAMBLING DEBTS.

Gaming and betting on the game are forbidden in Scotland. The poor of the parish are entitled to all winnings within twenty-four hours above 100 merks, and notes and other securities for gaming debts are annulled. The loser of money above £10 at a sitting or £20 within twenty-four hours is entitled to recover it from the winner. Informers may bring actions for the winnings and recover triple value, one-half going to themselves and the other to the poor of the parish. As to debts due for liquors (wine excepted), no one may sue for the price of spirituous liquors, unless the debt shall have been contracted bona fide to the amount of 20*s*. at one time or have been contracted for spirituous liquors sold and consumed elsewhere than on the premises where sold and delivered at the residence of the purchaser in quantities of not less than a reputed quart at once.

JAMES D. REID,
Commercial Agent at Dunfermline.

DEBTS NOT COLLECTIBLE.

Not enforceable is—

(1) Any obligation to give, do, or abstain from doing which is against the express prohibition of a statute.

(2) Any contract for the purchase of the subject-matter of a pending lawsuit.

(3) Any bargain by a counsel or law agent to receive, in remuneration of his professional services, a share of the subject or thing in contest.

(4) Any obligation incurred through gaming and betting on the game.

(5) Any contract for the sale of offices of public trust and those connected with the receipt of the revenue, the administration of justice, or the public departments of Government.

(6) Any obligation or contract immoral or *contra bonos mores*, such contracts, for example, as encourage crime; the price of prostitution; contracts for indecent or mischievous things, prejudicial or offensive to the public, or to third parties, or inconsistent with public law or arrangements; or money given as a bribe for appointing a person to an office.

(7) Any wager relative to mere questions of sport.

(8) Any bargain for the purchase or sale of shares or goods where neither party intends to hold and deliver, but merely to pay the differences of value at a certain time.

(9) Any contract inconsistent with public policy, such as any obligation imposing a restraint on marriage, marriage brokerage, or obligations for a reward or influence exerted in bringing about marriage.

(10) Any obligation in restraint of the liberty of the person; contracts tending to disturb public arrangements, or to impede the course of justice, or for restraining witnesses from giving testimony; for preventing a bankrupt

from making a full disclosure; for compromising felony or procuring pardon; for securing indemnification to a magistrate or jailer against the escape of a prisoner; for defeating the laws against slavery.

(11) Any contract for defeating the revenue laws.

(12) Any contract inconsistent with the national war policy.

No one may sue for the price of spirituous liquors, unless the debt shall have been bona fide contracted to the amount of 20*s.* at one time or have been contracted for spirituous liquors sold to be consumed elsewhere than on the premises where sold and delivered at the residence of the purchaser in quantities not less than a reputed quart at once.

The printer's name and residence is, by statute, required under high penalties on the first and last leaf of each book; and if this requirement is neglected he can not sue for the price of printing.

Sales made according to illegal weights and measures, contracts regarding lotteries, and contracts for the payment of wages of artisans of certain kinds otherwise than in money are void.

No one can receive charges for medical or surgical attendance or advice unless he is registered as a medical practitioner, nor for legal proceedings in a court of law unless he is duly certificated.

DEBTS FOR PROFESSIONAL SERVICES.

Barristers, who are in Scotland called advocates, are not allowed to sue for charges for professional services. They are usually paid by an honorarium, sent with the papers instructing them in the case in which they are to appear. Formerly medical practitioners could not sue for payment of their accounts, but now, by act of Parliament, they are entitled to do so.

OUTLAWED DEBTS.

As a rule, in Scotland, although the indebtedness may be outlawed or prescribed, the creditor can sue for recovery, the proof of the debt, however, being limited to the writ or oath of the debtor.

LEVI W. BROWN,
Consul at Glasgow.

DRINKING AND GAMBLING DEBTS.

The act 9 Anne, c. 14, declares that all bills, etc., granted for gambling debts should be deemed fraudulent and void; but the act 5 and 6 Will. IV, c. 41, repeals the nullity and enacts that such bills shall only be deemed as granted for an illegal consideration, the effect of which is that they are effectual in the hands of a bona fide holder to whom the same have been indorsed before they became payable, the party who pays having recourse against the original receiver of the security.

No one can collect the price of spirituous liquors drunk on the premises at the time, provided that the amount is less than $4.86 or unless contracted for liquor sold to be consumed elsewhere than on the premises where sold.

PAYMENT OF DEBTS OF HONOR.

As to the extent, in proportion to the amount incurred or assumed, to which debts of honor are paid, it is impossible to state accurately, as it depends entirely upon the honor of the individual. No statistics are available and no records kept.

Speaking of the Scotch people, I should say that a legal debt would be paid before a debt of honor would be considered. After the legal debt is discharged it depends upon the individual who retrieves his position whether the debt of honor receives attention.

Outlawed debts are often paid in this country, but there are no means of knowing to what extent.

I should consider that legal debts, in proportion to the amounts involved, are more generally satisfied in full than debts of honor.

WALLACE BRUCE,
Consul at Leith.

WALES.

DEBTS NOT COLLECTIBLE.

Of the various obligations which have no legal or binding nature except the honor of the debtor are those which can be enforced only when in writing. The most important of these are such as come under the statute of frauds and Lord Tenderden's act, grants of annuities, sales or assignments of copyrights, and sales or transfers of ships.

Obligations arising relative to the sale of personal property; the contracts of infants, lunatics, and idiots; and the liabilities of sureties are governed by laws similar to those which obtain in the States of the American Union.

Debts are barred by the various statutes of limitation, and parol contracts are void unless made for a consideration. By the Lord's Day act no work, except deeds of charity and necessity, are allowed to be performed on Sunday, and no action can be maintained therefor.

No debt for a sum less than 20*s*. incurred on account of spirits consumed on the premises is recoverable. If consumed off the premises, having been delivered to the purchaser at his residence in quantities not less than a quart at any one time, it is otherwise. Debts for ale, porter, beer, or cider consumed on the premises are not recoverable.

Gaming and wagering contracts are illegal and void. It is not so, however, with subscriptions or contributions, or agreements to subscribe or contribute, for or toward any plate, prize, or sum of money to be awarded to the winner of any lawful game, sport, pastime, or exercise. But this

reservation does not apply to two persons depositing a sum of money in the hands of a third to await the result of a lawful game between the two.

Wagers on horse racing are void; and a promise by a principal to pay his betting agent any sum of money, fee, commission, or other reward in respect of any gaming contract or services relating thereto by the agent is null and void.

Action in favor of the payee will not lie on a promissory note taken for a wager on a horse race; but, if the note is transferred, the holder can maintain an action, even though he knew the purpose for which the note was given.

Obligations for professional services by a barrister are debts of honor. So with physicians, surgeons, chemists, dentists, apothecaries, or veterinary surgeons, unless duly registered. Druggists and chemists can not sue for advice, and an ordinary practitioner duly registered under the medical acts can not recover for medicine and attendance, except in a surgical case.

PAYMENT OF DEBTS OF HONOR.

As to what extent, in proportion to the amount incurred, debts of honor are paid, it is impossible to speak with any degree of certainty. Barristers' fees are usually secured by the solicitor, and it is safe to say that most people who employ physicians pay for their services. The cases of insolvent debtors retrieving their position and paying their debts of honor and of outlawed indebtedness being considered a matter of honor and paid are so rare as to be lost to view in the clouds of such cases where no payment is made. As one prominent lawyer of Swansea pointedly puts it—

> The comparatively vast amount of law known by the populace makes the cases where debts of honor can possibly arise so rare, except in the professions where duties are honorary, that great care is exercised to prevent their birth; and, if they are born at all, they are generally brought into existence by the very class of people to whom it can be safely said honor is unknown.

CHARLES M. HOLTON,
Commercial Agent at Swansea.

GIBRALTAR.

DEBTS NOT COLLECTIBLE.

All bets and wagers, though made upon a lawful game, are invalidated; but the stakes of a cricket match, boat race, and such like may be recovered of the stakeholder who may unlawfully detain them. Also, any subscription, contribution, or agreement to subscribe or contribute, for or towards any plate, prize, or sum of money to be awarded to winners of any lawful game, sport, pastime, or exercise.

Drinking, gambling, and betting debts are not recoverable by law.

DEBTS FOR PROFESSIONAL SERVICES.

Professional services are not considered debts of honor, but are recoverable, in case of dispute or contention, by the ordinary legal process.

PAYMENT OF DEBTS OF HONOR.

It is seldom that such a circumstance occurs as an insolvent retrieving his position and paying his debts of honor; but such cases, though rare, have happened, even after the lapse of many years. Outlawed indebtedness is entirely dependent on the honesty and integrity of the party indebted. Honorary debts, though they can not be sued for, often take precedence of legal ones.

HORATIO J. SPRAGUE,
Consul at Gibraltar.

AMERICA.

CANADA.

I have the honor to present the following report prepared by Capt. W. N. Ponton, A. M., vice-consul and a lawyer of high standing in this city:

DEBTS NOT COLLECTIBLE.

The following debts are not collectible at law:

(1) Debts incurred or contracted during infancy (under 21), except for necessaries suitable for station in life, unless confirmed by writing after 21.

(2) Outlawed debts barred by statute of limitation—simple contracts after six years, covenants after twenty years—unless revived by written promise.

(3) Guaranty for the debt of another, if verbal only.

(4) Debts the direct result of a Sunday contract.

(5) Debt of an indorser on an unprotested bill or promissory note after maturity, if not notified of dishonor.

(6) Illegal debts and bets where the money is not in the hands of stakeholder.

(7) Promise to pay without previous request or consideration.

(8) Brokers' margins in stocks, wheat, etc., in future.

(9) Certain contracts void under statute of "frauds" not being in writing.

GAMBLING DEBTS.

Money in hands of stakeholder may be recovered from him by winner of bet if the other party has not notified the stakeholder not to pay it over. Gambling, of course, is forbidden as a criminal act where it involves an element of fraud, and is strictly forbidden in any licensed hotel or tavern. Games of chance, guessing beans, fakes, etc., are illegal; so are all lotteries in Ontario, but not in Quebec. The law refuses to interfere between two equal wrongdoers and leaves certain questions to be decided *in foro conscientiæ.*

DEBTS FOR PROFESSIONAL SERVICES.

The fees both of barristers and of physicians and surgeons were formerly *honoraria* and are so technically yet, but are made collectible under special statutes. The fees of clergymen for marriages, etc., are pure debts of honor. Retainers and refreshers of counsel are debts of honor unless in writing.

PROPORTION OF DEBTS OF HONOR PAID.

Not 10 per cent of unprotected indorsers' debts or of verbal guaranties are paid, but 25 per cent of outlawed debts and infants' debts are paid. Liquor debts and bets are generally paid, and also gambling and turf debts by those who continue to risk their money in this way. So also in the case of margins.

DEBTS OF INSOLVENTS AND OUTLAWED INDEBTEDNESS.

There is no legal release of insolvents by act of law in Canada.

I would say about 25 per cent of outlawed debts are paid. The decisions of judges make the defense of the statute of limitation a meritorious one. "Let no suits be immortal while litigants are mortal."

S. H. DENEEN,
Consul at Belleville.

DEBTS FOR PROFESSIONAL SERVICES.

Debts barred by statutes of limitation and those due from discharged insolvents may be named as having no legal or binding nature except the honor of the debtor. It was formerly a rule of law in the province of Ontario that barristers, physicians, clergymen, and arbitrators could not enforce payment for their services in a court of law; there are now several statutes under which they may do so. The only exception may perhaps be that of the clergyman, who would probably be required to show an actual contract—something more than an implied agreement to pay on the part of the person for whom the service was performed.

DRINKING AND GAMBLING DEBTS.

In the division courts, where the jurisdiction extends to $100 on accounts and $200 on amounts ascertained by the signature of defendant, it is expressly enacted that the court shall not have jurisdiction in the following cases: (1) Actions for any gambling debt; (2) actions for spirituous or malt liquors drunk in a tavern or alehouse; (3) actions on notes of hand given wholly or in part in consideration of a gambling debt or for such liquor.

PAYMENT OF DEBTS OF HONOR.

In proportion to the amount incurred or assumed, debts of honor may be said to be practically paid in full.

It is a very uncommon occurrence for an insolvent to pay his discharged debts, even though he subsequently retrieves his position. The moral obligation is, however, a valid consideration to support a new promise to pay, and such new promise may be enforced by law.

It can not be said that to any appreciable extent outlawed debts are ever considered debts of honor and paid as such.

It may be safely said that debts of honor are more frequently satisfied in full than legal obligations in cases where it is difficult to collect by due process of law.

LOTON S. HUNT,
Consul at Guelph.

DRINKING AND GAMBLING DEBTS.

According to the laws of the province of Ontario and of Canada, drinking, gambling, and betting debts are not collectible, but depend wholly on the honor of the debtor. The rule of law is that no action can be brought for the recovery of any spirituous or malt liquors drunk in a tavern or alehouse. It makes no difference whether the person supplying the same is licensed to sell or not.

As to gambling and betting debts, the law is that the division court shall have no jurisdiction to try any action for any gambling debt or actions on notes of hand given wholly or partly in consideration of a gambling debt; and the law also provides that all notes, bonds, etc., given, granted, drawn, or entered into, where the consideration is wholly or partly in consideration of a gambling debt or for any money knowingly lent or advanced for gaming or betting to any person at the time of play, etc., shall be utterly void, frustrate, and of no effect to all intents and purposes whatever.

As a general rule, in betting and gambling transactions, where the money has been paid, the law will not assist either party.

DEBTS FOR PROFESSIONAL SERVICES.

According to the laws of Ontario, bills and accounts of barristers, attorneys, physicians, etc., for professional services are collectible.

PAYMENT OF DEBTS OF HONOR.

If the question as to what extent, in proportion to the amount incurred or assumed, debts of honor are paid means what proportion can be collected, the above answers are sufficient, that is, that no proportion at all can be recovered; but, if the question means to what extent people pay such debts voluntarily, I believe they are in general paid if the parties are able.

In cases of insolvency, debts of honor are not usually paid, even if the debtor subsequently retrieves his position. I have never heard of any instance of its being done. In Canada there is at present no insolvent law providing for the discharge of the debtor, and he can only obtain a release from the claims of his creditors by their voluntary act and consent.

As a general rule, outlawed indebtedness is never paid; but, of course, there are exceptions. A person can sue on an outlawed debt, and, unless the statute of limitations is specially pleaded at the trial, judgment is given on the same. An executor is not compelled to take advantage of the statute of limitations, and may, in his representative capacity, satisfy the conscience of the testator.

Honorary debts are, I am inclined to think, more generally satisfied in full than legal debts in proportion to the amounts involved.

G. F. BRADFIELD,
Commercial Agent at Morrisburg.

DEBTS NOT COLLECTIBLE.

In Nova Scotia, so far as I can learn, the class of obligations which are not legally binding is about the same as in the New England States. Drinking, gambling, and betting debts are not collectible at law.

PAYMENT OF DEBTS OF HONOR.

It is difficult to estimate to what extent debts of honor are paid in proportion to the amount incurred or assumed. I believe the percentage here or elsewhere would be very small; 5 per cent would be a high estimate.

In cases of insolvency, where the debtor subsequently retrieves his position, debts of honor are not usually paid. There are a few men in most communities who would subsequently pay if able; but the proportion is, in my opinion, small.

I should say that outlawed debts are paid to only a small extent. I think 5 per cent would be a liberal estimate.

Honorary debts are not more generally satisfied in full than legal debts in proportion to the sum involved. I am inclined to think, however, that moderate betting and gambling debts are generally paid, even when the money is not "put up." Some men who bet and gamble have a sort of pride and sense of honor that induce them to pay such debts. Their occupation would be gone if they made it a practice to dishonor such claims. Probably the payment of such debts of honor, if of large amount, are generally secured to the winner by a deposit in the hands of a third person or umpire. But, not being familiar with this particular subject, I can not speak from actual knowledge.

WAKEFIELD G. FRYE,
Consul-General at Halifax.

DRINKING AND GAMBLING DEBTS.

Gambling and betting debts are not collectible at law in all this province, with the exception of Charlottetown. The act of the Parliament of Canada known as the Canada temperance act, or Scott act, is in force. That act forbids sale of any intoxicating liquors, except for sacramental and medicinal purposes and for purposes of art. The price of any liquor sold where the act is in force, except for above-named purposes, can not be recovered at law. The act referred to may be adopted by any city or county at its option. The act is not in force in this city, and there is no license act or law in any way restraining sale of liquors; consequently here, I think, the price of liquor sold could be recovered at law.

PAYMENT OF DEBTS OF HONOR.

The extent, in proportion to the amount incurred or assumed, to which debts of honor are paid is high. I should say such debts are pretty generally paid. Any person repudiating such a debt stands low in public estimation.

Cases where an insolvent person retrieves his position and is able to pay his debts in full are very rare.

The plea of statute of limitation is not often set up, nor are actions on outlawed debts often brought.

I should say that honorary debts are not more generally satisfied in full than legal debts in proportion to the amounts involved.

I. C. HALL,
Consul at Charlottetown.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding value except the honor of the debtor are gaming debts, debts for liquor drunk upon the premises, debts contracted for illegal or immoral purposes incompatible with public order, and outlawed debts, or, as they are called here, "proscribed debts."

DRINKING AND GAMBLING DEBTS.

Drinking and gambling debts are not collectible at law; but, by articles 1927 and 1928 of the civil code of the province of Quebec, certain betting debts are collectible.

ARTICLE 1927. There is no right of action for the recovery of money, or any other thing claimed under a gaming contract or a bet. But if the money or thing have been paid by the losing party, he can not recover it back, unless fraud be proved.

ARTICLE 1928. The denial of the right of action declared in the preceding article is subjected to exception in favor of exercises for promoting skill in the use of arms and other lawful games which require bodily activity or address. Nevertheless, the court may, in its discretion, reject the action when the sum demanded appears to be excessive.

DEBTS FOR PROFESSIONAL SERVICES.

Professional debts are collectible at law, according to tariffs made and provided. When the tariff has not so provided, retainers of lawyers, charges of physicians, notaries, etc., if agreed upon between the parties, are collectible at law; if the tariff has not provided for such services, and if no such agreement has been made, the courts will, according to circumstances, grant a moderate fee—*quantum meruit.*

PAYMENT OF DEBTS OF HONOR.

The extent, in proportion to the amount assumed or incurred, to which debts of honor are paid is very slight. There are exceptions where these debts are paid, but it is not generally done; at least there are no statistics to show to what extent it is done. People here, as elsewhere, usually guide their consciences according to the letter of the law.

There are cases where debts of insolvents have been paid by those who have retrieved their positions, yet it is the exception, and not the rule.

The extent to which outlawed indebtedness is considered a matter of honor and paid is very small in practice, though, of course, in theory everybody would proclaim the sacredness of debts of honor.

Honorary debts are not more generally satisfied in full than legal debts in proportion to the amount involved; on the contrary, much less.

FREDERICK M. RYDER,
Consul at Quebec.

MEXICO.

DEBTS NOT COLLECTIBLE.

In replying to this and also to the several inquiries under the same general subject, I wish to say that my answers are based upon the laws and customs as, I am informed, they now exist in this State of the Republic of Mexico. Under the severe provisions of the law for the collection of all debts, there seems really to exist but one debt of honor, to wit, a gambling debt. Drinking and betting debts are said to be collectible at law; but, gambling being prohibited by law, debts of this character are not collectible by legal process.

PAYMENT OF DEBTS OF HONOR.

Debts of honor are paid when contracted by gentlemen. I have no information by which to determine in what proportion to the amount incurred or assumed they are paid.

An insolvent very rarely retrieves his fortune; in fact, a leading merchant of twenty-five years' standing tells me that he has never known but one instance of this kind in this city. The insolvent in this case was an American citizen and is now a large property-owner.

Among the native Mexican population generally, an outlawed indebtedness is considered canceled, and to take the benefit of such exemptions carries with it no unfavorable criticism among his own people. It should, however, be stated in this connection that almost all large and reputable business enterprises are in the hands of foreigners, who are careful to preserve their business honor; and this condition of affairs, I am credibly informed, obtains in all parts of the Republic.

The general rule, I am told, and particularly among people of small means, is to satisfy debts of honor last.

All obligations contracted for professional services have the same legal status as debts incurred in any other manner.

JAMES F. McCASKEY,
Consul at Acapulco.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are, generally speaking, gambling, drinking, betting, and sporting.

Drinking, gambling, and betting debts are not collectible at law, except in case one buys his "drinks," not by the glass, but by the bottle and in larger quantities, when the debtor can be required by law to pay.

PAYMENT OF DEBTS OF HONOR.

Debts of honor are generally paid in full, unless otherwise arranged between the interested parties and in a manner satisfactory to the creditor.

In cases of insolvency, debts of honor are usually paid if the debtor subsequently retrieves his position.

Among gentlemen here there is no such thing as outlawed indebtedness, and they will always acknowledge a debt of honor, although it may have become outlawed. At times they may be a little slow in meeting their obligations, but they will rarely ever repudiate them.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

WM. HEIMKÉ,
Vice-Consul at Chihuahua.

Among the various obligations that have no legal or binding nature in this country except the honor of the debtor are those which are proscribed after the limit of time stipulated by law. Debts for goods sold to retailers are binding for a term of twenty years, while those for goods sold to consumers are outlawed or prescribed after three years.

Gambling debts are not collectible at law, with the exception of bets on races, billiards, or other games not prohibited by law.

In cases of insolvency the debtor is also bound legally for twenty years, and but very few cases have been known to have been settled as debts of honor, even though the party should have retrieved his position.

Gambling debts are paid regularly as debts of honor.

JAS. VIOSCA, JR.,
Vice-Consul at La Paz.

DEBTS NOT COLLECTIBLE.

All obligations arising from the purchase of merchandise or property of any kind are debts of honor and not collectible at law, unless the creditor holds the debtor's note for the amount. This applies only to transactions done in this country. Debts for merchandise purchased in foreign countries are collectible at law if it is proven that the transaction took place.

Drinking debts are collectible at law, but gambling and betting debts are not.

DEBTS FOR PROFESSIONAL SERVICES.

Professional indebtedness is but a matter of honor merely. Debts for medical services are to some extent considered debts of honor, but are collectible at law the same as for other professional services.

PAYMENT OF DEBTS OF HONOR.

It is said that about 75 per cent of the debts of honor are paid. Gambling debts are, with scarcely an exception, fully and promptly paid.

In cases of insolvency debts of honor are often paid if the debtor subsequently retrieves his position.

Outlawed indebtedness is considered a matter of honor and paid to the extent of about 75 per cent.

It is difficult to directly answer the question whether honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved. The debts of honor that are satisfied are usually paid in full. Legal debts are almost always paid in full, except in cases of insolvency. Some kinds of debts of honor become legal debts upon their acknowledgment by the debtor.

JOHN G. WASTE,
Vice-Consul at Matamoros.

DEBTS OF HONOR AND THEIR PAYMENT.

"Debts of honor" (so called) are gambling, betting, etc.

Drinking is a debt collectible at law, while gambling and betting debts are not.

Professional services are collectible under the law. I know of none that would come outside of this class.

It would be very hard to say what proportion of the amount of so-called "debts of honor" is paid. In many cases the whole debt is paid soon or after some time. In other cases none is paid. It depends entirely upon the person and circumstances.

It is impossible to say whether an insolvent debtor, once legally discharged by the court, usually pays all he has been discharged from, because there are no statistics of such transactions available. I have known one or two who did subsequently pay up, but I have heard directly or indirectly of many more who did not and are not ever likely to. It is altogether too uncertain a matter to predicate an opinion.

I do not think that honorary debts are as generally satisfied in full as legal debts in proportion to the amounts involved.

WARNER P. SUTTON,
Consul-General at Nuevo Laredo.

CENTRAL AMERICA.

HONDURAS.

DEBTS OF HONOR AND THEIR PAYMENT.

The various obligations that have no legal or binding nature except the honor of the debtor are gambling and betting debts.

Debts for drink are collectible; gambling and betting debts are not.

All obligations for professional services are collectible at law.

The extent, in proportion to the amount incurred or assumed, to which debts of honor are paid is probably one-half or less.

As to payment, in cases of insolvency, of debts of honor if the debtor subsequently retrieves his position, I have been unable to find a case in point, and can not therefore give a definite answer to this question.

There is no statute of limitations in this Republic; therefore, there is no "outlawed indebtedness."

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved; probably in the proportion of 3 to 2.

JAMES J. PETERSON,
Consul at Tegucigalpa.

NICARAGUA.

DEBTS NOT COLLECTIBLE.

The general rule regarding obligations in Nicaragua is that all are susceptible of judicial fulfillment except those hereinafter specified, as follows:

(1) Contracts made by persons incapacitated from obligating themselves according to law, as married women and minors.

(2) Civil obligations that are extinguished by prescription.

(3) Obligations that are not recognized in law for want of proof.

(4) Those obligations that proceed from acts which have failed to meet the requirements demanded by law, as the payment of a bequest made in a will which is not strictly in proper form.

(5) Those debts that come from gambling or from a wager.

However, if a person who is excluded by law from making contracts has contracted an obligation and voluntarily complies with its provisions, being a person capable of conducting his own affairs, he can not afterwards judicially recover on learning his rights.

Gambling debts or wagers, though they constitute natural obligations, do not give a right to demand their fulfillment legally. The loser who pays a gambling debt has no expressed right to demand a return of what he has paid. Without doubt, it is the established rule that the courts will not listen

to demands for payment of debts which have for consideration money lost at gambling or by a wager.

In regard to drinking debts the law is silent. I am informed, however, that they are collectible notwithstanding the silence of the law upon the subject.

For professional services there are fixed rates, and he who conforms to them has a right to demand his pay. If he exceeds the tariff, it remains with the debtor to say whether he will liquidate the debt or not.

PAYMENT OF DEBTS OF HONOR.

It is utterly impossible to give any idea as to what extent or in what proportion to the amount incurred or assumed debts of honor are paid. Nor is there any source from which it is possible to obtain data intelligently to answer the following questions:

"In cases of insolvency, are debts of honor usually paid if the debtor subsequently retrieves his position?"

"To what extent is outlawed indebtedness considered a matter of honor and paid?"

"Are honorary debts more generally satisfied in full than legal debts in proportion to the amounts involved?"

WILLIAM NEWELL,
Consul at Managua.

SOUTH AMERICA.

ARGENTINE REPUBLIC.

DEBTS NOT COLLECTIBLE.

In this Republic all obligations or contracts which have no greater foundation than natural or equitable right, *i. e.*, have no legal sanction or force, are called debts of honor. Such debts, whatever may be the bond of obligation which exists between the parties, can not be enforced by the intervention of the tribunals, unless they are especially sanctioned by the civil code.

DRINKING AND GAMBLING DEBTS.

Debts originating in bets or games of chance are not collectible by legal process when the games are expressly prohibited. Bets, however, based on feats of strength or skill at arms, or horse racing, according to their respective regulations, are capable of being enforced at law, as are also those which are made on the stock or exchange board, called "differences."

Drinking debts are collectible at law, as the business of selling liquors is a perfectly legal occupation. But obligations which have been contracted by an habitual drunkard while he is in an intoxicated condition are not capable of being enforced, in view of the fact that the law assumes that, in such a state, the person is lacking in ordinary discernment, his intellect being temporarily overcome and not capable of working.

DEBTS FOR PROFESSIONAL SERVICES.

Professional services are not considered debts of honor, but are in the same category as ordinary business transactions. If, however, they have not been enforced within the term within which actions at law may be brought, they are by that omission converted into natural obligations, which are not collectible by legal process. If, however, after such outlawry, these or other debts are paid by the debtor, no reclamation is permitted, even though the party paying was ignorant of the outlawry.

PAYMENT OF DEBTS OF HONOR.

It may be said generally that debts of honor are more punctiliously paid than debts originating in ordinary business transactions. The former are considered to carry an obligation which the latter do not possess. An impecunious Argentine might go in debt for a suit of clothes and never pay the amount; but, if he lost a bet with you for $50, he would try to arrange it in some way.

In cases of insolvency, where the party subsequently retrieves his position, debts of honor occupy pretty much the same category with ordinary debts. The latter are virtually wiped out by the act of bankruptcy, and the party in law is no more obliged to pay them than he is to pay debts of honor. The payment of either or both is a matter which depends on the delicacy of each man's moral sense or conscience. Where debtors, however, in insolvency or failing circumstances, agree with creditors to pay down a certain part of a debt of honor and contract to pay the rest or a determined amount when they retrieve their fortunes, such agreements can be enforced in the tribunals; and the judge may award the sum, considering the circumstances of the case, that they should pay.

Outlawed debts are obligations which may or may not be paid, according to the disposition of the creditor. They are, however, not considered so binding on a man's honor as betting or gambling debts; since, in the case of the outlawed debts, the debtor had his remedy at law, which he failed to enforce.

It is difficult to express a decided opinion as to whether, in this country, honorary debts are more generally satisfied in full than legal debts in proportion to the amount involved. It is to be assumed that a man will pay his legal debts if he can, and it is equally certain that a man will pay his debts of honor if he can. Yet it is true, as I have already stated, that debts of honor, with most people here, seem to stand in a different and more sacred light than ordinary commercial indebtedness. For this reason, perhaps, they are more generally satisfied.

In a country like the Argentine Republic, in which credit is the foundation of the social economy and the basis of individual standing in the community, it is a point of etiquette for a person to satisfy obligations which are merely moral; and only in cases of misfortune will financial difficulties

prevent respectable people from complying with what their honor is pledged for. Even a *gaucho*, it may be added, who, if occasion offers, will steal your saddle, is so "honorable" that he will at once deliver you his horse if he has lost him on a bet.

E. L. BAKER,
Consul at Buenos Ayres.

BRITISH GUIANA.

DEBTS NOT COLLECTIBLE.

There appear to be no debts of honor in this colony save gambling, drinking, betting, and other debts of honor common in all countries. Professional debts, in a sense, are honorary.

Neither drinking nor gambling debts are collectible at law, nor are betting debts. If, however, a person should be gambling and borrow money from another person with which to play, the sum borrowed can be collected in a court of law.

All obligations for professional services appear to be debts of honor.

PAYMENT OF DEBTS OF HONOR.

The standard of honor in this colony, save in a comparatively small class, in which are included the educated of the white and colored population, is reputed to be low. Hence it is fair to presume that the proportion of incurred or assumed debts of honor which are paid is small compared with the population of the colony, which is about 288,000. A gentleman always pays his debts of honor here or elsewhere.

It has been stated on good authority that numerous debtors have promised to pay their debts upon their discharge, but in no single case has a debtor kept his promise. This may or may not be true.

Outlawed debts, consequent upon there being little or no honor among the class which contracts them, are, I am informed, rarely or never paid. It generally follows, in all countries, that when a man is able to pay a debt and will not do so within the time prescribed by law he will not do so when there is no law to compel him.

Among the class possessed of honor an honorary debt is as binding as a legal debt and is faithfully liquidated, but those possessed of little or no honor will not pay anything unless compelled to do so.

PHILIP CARROLL,
Consul at Demerara.

BRAZIL.

I can obtain no statistics in Bahia concerning debts of honor. What information I submit is based upon private research, mainly conducted among the legal fraternity. The sum total of my results would go to show that in

Brazil, at least in this section of it, honorary debts are not usually paid, and that the public conscience is not overburdened with a sense of personal obligation, unless enforced by legal process.

Private debts have no legal or binding force unless witnesses can be produced to prove their existence. Drinking, gambling, and betting debts are not collectible at law. There are no obligations for professional services that are considered debts of honor. A bird in the hand is considered as worth several in the bush.

I can not ascertain to what extent, in proportion to the amount incurred or assumed, debts of honor are paid, but think, from the general trend of the information I have gathered, that the proportion is small. In cases of insolvency, where the debtor subsequently retrieves his financial status, debts of honor are not usually paid. As a general thing, outlawed debts are never paid. Legal debts obtain precedence over honorary debts.

WM. O. THOMAS,
Consul at Bahia.

DEBTS NOT COLLECTIBLE.

Gambling and betting debts are the only debts in this country not recognized by law. Debts incurred previous to insolvency and outlawed debts have, of course, at one time enjoyed the protection of law, but this protection, for reasons of public policy, has been subsequently withdrawn.

Drinking debts are collectible by law. Debts for all manner of professional services are collectible by law, and are privileged after the death of the creditor if incurred during his last illness.

PAYMENT OF DEBTS OF HONOR.

With rare exceptions, gambling and betting debts, I am told, are paid; but it is quite impossible to form an idea of the extent to which, in proportion to the amounts incurred or assumed, all debts classed as debts of honor are liquidated.

It is not often that an insolvent pays obligations incurred previous to insolvency, even though he retrieves his position.

Seldom is outlawed indebtedness paid. A well-informed gentleman tells me he knows of only one instance in forty years.

As near as one may give a correct answer to the last interrogatory, I should say that legal debts are more generally satisfied in proportion to the amounts involved than honorary debts, classing as such insolvent, outlawed, gambling, and betting debts.

CHARLES NEGLEY,
Consul at Rio Grande do Sul.

COLOMBIA.

DEBTS NOT COLLECTIBLE.

There are two classes of contracts in this country that can not be collected at law:

(1) Those not made in accord with the requirements of the law, as those required to be in writing, but not made on stamped paper, as required by law, and all commercial transactions to the value of $500 and upwards without the legal documents by law required, *i. e.*, if one sells a bill of goods to the value of $500 and upwards on credit, the contract covering the transaction must be in writing and made on stamped paper furnished by the Government.

(2) Contracts made contrary to law, such as gambling, betting, and contracts providing for a lifelong income. In the case of gambling the winner can not bring action to recover, and the loser, after paying, can bring action to recover. In the case of simple betting, where there is no game, the winner can not bring action; but, if the loser pays, he has no right of action to recover unless there has been fraud. Games of skill, races on foot or on horseback, ball, etc., are not contrary to general law, but may become so by police regulations of the municipality.

Drinking debts are considered as any other commercial transactions, and, of course, can be collected. Debts for professional services are legal obligations.

PAYMENT OF DEBTS OF HONOR.

It is the custom among men of repute to pay debts of honor in full. Bankrupts who recover their standing generally pay debts of honor in full. Outlawed debts are generally considered debts of honor, and a large share of them are paid by persons who are able to do so.

No one can determine the proportion of payments in these cases, the whole thing being of a personal and private nature. Besides, this is the most difficult country in the world in which to get any kind of information touching questions of this class. One reason is that nearly every one pays his debts. There are very few mercantile failures; they are the rarest of occurrences.

JOHNSON NICKEUS,
Consul at Barranquilla.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are, in a general way, those for which there is no value received.

Drinking debts are, nominally, collectible at law. The statutes declare that gambling and betting debts can not be made the cause of an action at law, excepting in the case of bets in regard to a game or trial of strength, skill, or physical endurance and which is not in violation of police regulations. The statute also says that he who wins can not compel payment, but, if he loses and pays, he can not demand the return of his money unless the winner gained by fraud. There is fraud in betting on a certainty, as when the subject of the bet was verified beforehand.

DEBTS FOR PROFESSIONAL SERVICES.

I can not learn of any obligations for professional services that are debts of honor. Lawyers do not wait for their dues until they recover them by an action at law and do not often trust to the honor of the client. Doctors of medicine must be duly licensed and, on being licensed, must publish their tariff of fees in the Official Gazette, a paper which very few people see. Such publication of fee bill makes the fees legal and collectible at law.

There is no limit to the fee that a medical practitioner may charge, provided that he has published it in his tariff of fees. Thus, if he gives notice that his fee for a visit will be $25 he may collect it at law, although it may be shown that in ninety-nine cases out of a hundred he only charged $5 for a visit. It is usual for doctors to say in their advertised tariff of charges that services not herein mentioned will be charged for at customary rates, which, if disputed, would be decided by the evidence of other physicians or surgeons.

PAYMENT OF DEBTS OF HONOR.

It is impossible to answer definitely the following questions:

"To what extent, in proportion to the amount incurred or assumed, are debts of honor paid?"

"In cases of insolvency, are debts of honor usually paid if the debtor subsequently retrieves his position?"

"To what extent is outlawed indebtedness considered a matter of honor and paid?"

The gentlemen of the National Board of Trade who framed these questions have apparently a higher opinion of the average ability of consuls "to see what is not to be seen" than is deserved. Only one case relating to gambling debts has come under my official cognizance, and in that case the payment of a number of gambling debts due to the estate of an American decedent was distinctly refused, although the indebtedness was not denied. The debtors were American citizens.

I have not heard of any case here of an insolvent person paying his old debts on recovering his position. The supposition of such a case could not be gravely entertained.

There are no grounds for believing that outlawed indebtedness is, to any appreciable extent, considered a matter of honor and paid.

A legal gentleman of high repute informs me that amongst Panamanians gambling debts are more generally satisfied than legal debts in proportion to the amount involved; but another local authority on the subject intimates that this is because, as a rule, people who gamble object to one of the party putting up his I O U against the legal tender of others of the party.

THOMAS ADAMSON,
Consul-General at Panama.

DUTCH GUIANA.

There is no law in this colony regulating "debts of honor." No public opinion on morality exists of any value.

Drinking debts are legally collectible, but gambling and betting debts are not recoverable. Games of chance are prohibited; but bets made on skill, such as rowing, racing, chess, etc., are collectible, as the law allows a person to back one person's skill against another's where no element of chance exists.

There are fixed charges for medical attendance. The members of the legal profession protect themselves by asking for payment in advance.

Outlawed indebtedness is not considered a debt of honor and is not paid.

W. WYNDHAM,
Acting Consul at Paramaribo.

URUGUAY.

I herewith transmit the following data obtained from a leading lawyer here, Dr. Carlos A. Berro.

DEBTS NOT COLLECTIBLE.

The various obligations without legal or binding force, depending upon the honor of the debtor, are designated in the legislation of this country "natural." The civil code, article 1402, thus defines them:

"Natural" obligations are those which arise from equity only and do not confer the right of legal action to exact their fulfillment, but which, once fulfilled, authorize the retention of the consideration given or paid for them.

The "natural" obligations are enumerated in article 1403 of the same code as follows:

(1) Those contracted by persons who, having sufficient judgment and discernment, nevertheless are incapable of contracting obligations according to law, *e. g.*, married women in cases in which the authorization of the husband is necessary and minors.

(2) Those arising from acts or documents void on account of nonfulfillment of some solemnity which the law requires for its validity.

(3) Civil obligations which have lapsed.

(4) Those which have not been recognized by law for lack of sufficient proof, or when the suit has been lost through error or malice of the judge.

(5) Those which have their origin in agreements uniting the general conditions required in the matter of contracts, but to which the law, on grounds of public policy, has denied remedies by judicial action, such as gambling debts.

DRINKING AND GAMBLING DEBTS.

The legislation of the Republic does not make any special disposition regarding obligations for debts contracted for rum.

In regard to gambling or betting debts, the law does not concede any action for reclaiming the object for which the gambling or betting has been made, except in the case of games and bets proceeding from the exercise of strength, skill with arms, races, and similar matters. These form an efficient basis for civil action. Nor is any action conceded for reclaiming the reimbursement of money knowingly lent for gambling or betting purposes. (See civil code, articles 2138–2152.)

DEBTS FOR PROFESSIONAL SERVICES.

No special disposition, as far as I know, is contained in the legislation of this Republic converting into natural obligations or debts of honor actions for reclaiming the payment of professional services. Professional services always carry a right to civil action.

PAYMENT OF DEBTS OF HONOR

There does not exist any fixed rule as respects the amount of honorary indebtedness paid, nor is it reasonable to expect that it should exist, as all depends upon the conscience and the good will of the debtor.

The general rule is that insolvent debtors subsequently retrieving their position try to arrange with their original creditors, but naturally there exist numerous exceptions.

As in all legislation, the term for the lapse of civil obligations and commercial obligations differs. As a general rule the personal action for debt capable of enforcement lapses in twenty years (civil code, article 1177). There are some shorter limits; alimentary pensions, amounts of leases, interest on borrowed money, and all which is paid by years or shorter periods lapse after five years. The obligation to pay to merchants and mechanics the price of their goods or manufactures lapses after two years, etc. (civil code, articles 1183 and 1184). Commercial obligations lapse, in general, after four years. There is no limitation as to time of enforcement of natural obligations or debts of honor.

The question whether honorary debts are more generally satisfied in full than legal debts is not susceptible of exact reply, but I should say much less frequently. It depends much on the financial situation of the country.

FRANK D. HILL,
Consul at Montevideo.

VENEZUELA.

DRINKING AND GAMBLING DEBTS.

Drinking and betting debts are collectible at law. Gambling debts are not. Raffle obligations are legally collectible.

DEBTS FOR PROFESSIONAL SERVICES.

According to one of the best-informed lawyers, obligations for professional services are not debts of honor, unless, indeed, the services rendered should be of an illegal character.

PAYMENT OF DEBTS OF HONOR.

It may be said that, as a rule, the people here are very scrupulous respecting this class of debts, more so even than in the satisfying of their legal obligations. This naturally is to be expected in a country where gambling of every description is so prevalent.

There are scarcely any precedents here upon which to base a decided opinion whether, in cases of insolvency, debts of honor are usually paid if the debtor subsequently retrieves his position; but I should say they are.

Outlawed indebtedness is considered a matter of honor and paid to the full extent should the debtor be subsequently in a position to satisfy his obligations, and this has at times been done even after a lapse of twenty years. As a rule, however, when debts are outlawed the probabilities are that the debtor would give other obligations the preference.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

Respecting debts of honor in the limited sense of the phrase, there is no doubt that the people of Spanish America generally are very scrupulous in meeting their obligations. Gambling is the national vice, and the liabilities arising therefrom are more binding morally than debts contracted legally. Should a person become entirely bankrupt and subsequently regain his position, he might pay his outlawed debts and business obligations from which the process of bankruptcy legally relieved him; but before all he would satisfy his so-called debts of honor. In fact, among people of a certain social standing, I believe I am safe in saying that more scrupulousness would be displayed in paying debts not collectible at law than in satisfying legal obligations.

E. H. PLUMACHER,
Consul at Maracaibo.

WEST INDIES.

ANTIGUA.

DEBTS NOT COLLECTIBLE.

The law here with regard to those obligations that have no legal or binding nature except the honor of the debtor is practically the same as the law of England. Agreements without a consideration, therefore, and unlawful agreements are not binding.

Unlawful agreements are numerous, and they may be divided for convenience into—

(1) Illegal, *i. e.*, such as are contrary to positive law.

(2) Immoral, *i. e.*, such as are violations of established rules of decency, morals, or good manners.

(3) Against public policy, *i. e.*, such as are contrary to the common weal.

I may enumerate instances of each heading, respectively:

(1) Illegal:

(*a*) An agreement to commit an offense, or where the ulterior object is an offense. An agreement made with A to pay money to A's executors if A commits suicide would be void.

(*b*) Agreements for doing a civil wrong to third persons.

(*c*) Agreements in fraud of creditors.

(*d*) Agreements involving fraud upon third persons.

(*e*) Agreements made illegal by statute, whether expressly or only by implication forbidden.

(2) Immoral:

(*a*) An agreement for future illicit cohabitation. But if it be in respect of past cohabitation, it is, if under seal, binding; otherwise not.

(*b*) Agreements by husband and wife for future separation.

(3) Against public policy:

(*a*) When they affect the commonwealth in its relation with foreign powers, *e. g.*, trading with an enemy, except with the license of the Crown, and engaging in hostilities against friendly states.

(*b*) When they affect good government and the administration of justice: Agreements to induce any officer of the State to act partially or corruptly (for example, agreements for the sale of offices and certain assignments of salaries and pensions); agreements for stifling criminal prosecutions; agreements compromising election petitions; agreements relating to process in civil courts involving anything inconsistent with the full and impartial course of justice, though not open to the charge of actual corruption; maintenance and champerty agreements; wagers on questions of immorality or indecency or against public policy. Military and judicial salaries are not assignable.

Pensions for past services may be assigned, but not when given for supporting grantee in the performance of future duties.

(*c*) When they affect the legal (and possibly moral) duties of individuals in the performance of which the public have an interest, such as an agreement by a father to deprive himself of the right to the custody of his children or of his discretion as to their education.

(*d*) Where they unduly limit the freedom of individual action; for example, marriage-brokage contracts and agreements in restraint of marriage, agreements to influence testator in favor of a particular person, agreements in general restraint of trade.

DRINKING AND GAMBLING DEBTS.

Drinking, gambling, and betting debts were good at common law; and there is no statute here, as there is in England, against the first class. As to the two latter, they are regulated by an old act, the aid of which, so far as I know, has not been invoked for many years. This act punishes fraudulent gambling and betting and renders the winner of more than £7 at one sitting and within twenty-four hours from beginning play liable to pay treble the value of his whole winnings. I think the old currency money is referred to, not sterling money. Under this act a loser of more than £7 at one sitting or within twenty-four hours from beginning of play is not compelled to pay.

DEBTS FOR PROFESSIONAL SERVICES.

By the supreme court act of 1880 every barrister here is entitled to practice as a solicitor and proctor and to sue for and recover his taxed costs as such. Counsel's fees beyond the amount taxed must still be regarded as honorary and as irrecoverable at law. Medical men can recover their fees at law, according to a fixed scale.

PAYMENT OF DEBTS OF HONOR.

It is impossible for me to answer questions 4, 5, 6, and 7, as the necessary material is not obtainable; but, as far as my experience goes, "debts of honor," when contracted by persons in good position, are almost invariably discharged and are never brought before a court. It must be admitted, however, that the greatest difficulty is experienced by merchants in collecting debts of any sort from the great body of the people; and, if the debt is not collectible at law, the chances of its being collected at all are very slight. The merchants doing an import trade are, as a rule, honorable men and will pay their liabilities. If during a year which has been disastrous to the staple industry—sugar—they are unable to pay their liabilities when due, they do not, as a rule, rush into the bankruptcy court to clear themselves of their losses, but ask for time and invariably pay in full. With regard to those who have been forced to place their affairs in the bankruptcy court, I have not known a case here in which the debtor has recovered his position and paid his former indebtedness. The debtor who is forced to invoke the aid

of the court to settle his affairs loses whatever credit he formerly possessed, and never regains a position of trust, and, so far as my experience goes, remains unable to satisfy his former indebtedness.

Among a small class an outlawed debt would be as binding as any other, but the larger section of this community would repudiate.

I have invoked the aid of C. Halman Baird, esq., attorney-general of the Leeward Islands, in the compilation of this report.

SAML. GALBRAITH,
Vice-Consul at Antigua.

THE BAHAMAS.

Drinking, gambling, and betting debts are not collectible at law. I am not aware of there being any obligations for professional services that are debts of honor.

Debts of honor incurred in gambling, betting, or drinking are almost universally paid, and generally with great promptness. In cases of insolvency, any surplus of indebtedness after a compromise is seldom considered as a debt of honor and is very rarely paid, no matter how fully the debtor may retrieve his position subsequently. The legal discharge is a discharge in full. Outlawed indebtedness is seldom considered a debt of honor and is rarely paid. Honorary debts incurred in gambling and betting are more generally satisfied in full than are legal debts in proportion to the amounts involved; but, with regard to debts of insolvency, outlawry, etc., the reverse is true.

THOS. J. McLAIN, Jr.,
Consul at Nassau, N. P.

BERMUDA.

In Bermuda there are few obligations that have no legal or binding nature except the honor of the debtor, unless it be verbal contracts in business for small sums that are expected to be fulfilled without delay and in almost all cases are.

Drinking, gambling, and betting debts are not collectible at law. In such cases spot cash is the rule. Public sentiment is opposed to public gambling, but there is considerable private playing. In both white and colored circles not to pay a gambling debt, which is regarded as a debt of honor, would mean social ostracism.

Bermudians are honest in their dealings with one another—remarkably so—and pay their debts when they can. There is no disposition towards dishonesty. Once in a while a rascal turns up and runs away, forgetting to liquidate his indebtedness before embarking; but the ratio of rascals to the

population is strikingly small. When a man becomes insolvent, his creditors attach what is left, and the debt hangs over the debtor until he pays it or the debt of nature. Debts are never outlawed, provided the creditor revives his claim by presenting his bill every six years. By so doing he fastens the debt on the debtor for six years more.

W. K. SULLIVAN,
Consul at Hamilton.

JAMAICA.

As to what are the various obligations that have no legal or binding nature except the honor of the debtor, I would say that substantially the same rule prevails here as existed at common law. No gambling debt or promise to pay based upon any kind of wager is collectible by law; but debts for drinking, liquors, etc., are legal liabilities and are collectible as such. Debts to medical men not duly registered under the medical practitioners' law and barristers at law fall within the purview of "debts of honor" and are not recoverable at law.

As to the extent, in proportion to amount incurred or assumed, debts of honor are paid, this can not be answered except in a relative way. In cases of insolvency and outlawed indebtedness, leading solicitors inform me that in a long experience they recall no case in which an insolvent, once relieved of his legal liability by limitation or otherwise, ever recognized that liability upon the return of prosperity. What are known in common parlance as "honorary debts" are rarely, if ever, paid here.

W. R. ESTES,
Consul at Kingston.

SAGUA LA GRANDE.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are debts contracted at prohibited games and outlawed indebtedness.

As regards gambling debts, there is a distinction made between those contracted at prohibited games and those at lawful games. The first named are debts of honor, and it is customary to pay them inside of twenty-four hours. These debts are declared by law as noncollectible. Debts incurred at lawful games may also be considered as debts of honor, inasmuch as the law stipulates that the amount played for must not exceed what an honorable man of family could conveniently hazard, thus leaving (in case of action at law) to the discretion of the judge the amount he considers should be paid. At cockfighting (a legal game) a large amount was lost, and the

loser, for some cause, refused to pay; the matter was taken to court, and the loser was condemned to pay $17, this amount being what the judge considered an honorable man of family could conveniently hazard. As a rule, these debts are paid without recourse to the law.

Drinking debts are of the same character as any other debts contracted at a store; they are outlawed at the expiration of three years, however, if no attempt of any kind has been made in that time to collect them.

DEBTS FOR PROFESSIONAL SERVICES.

There are obligations for professional services that are debts of honor—in cases where a criminal who is insolvent is defended by a lawyer. If discharged, the court does not pay for the services of the lawyer, and the accused thus contracts a debt of honor. If condemned, the court pays costs and charges and increases the term of imprisonment at the rate of one day for every $1.20 thus paid. In such cases, however, it is customary for the lawyers to refuse any remuneration, thus saving the culprit from these extra days of imprisonment.

PAYMENT OF DEBTS OF HONOR.

Debts of honor are generally paid, or, when the amount is very large, excused by the creditor.

In cases of insolvency debts of honor are usually paid if the debtor subsequently retrieves his position. In cases of insolvency when the merchant regains his position, if he has made an agreement with his creditors, he is obliged to pay. If he has not made any agreement, the debts may be by law collected in full. In some cases, where the insolvent retrieves his position, he makes a private and separate agreement with each and every creditor for the purchase of his indebtedness. The reason for this is that, having once failed, no matter under what just or plausible circumstances, he is incapacitated to contract or oblige a fulfillment or to hold any property in his name. After the purchase of his indebtedness he files a request in the court for his rehabilitation. Outlawed indebtedness is not paid. The fact that it becomes outlawed is due, in every instance, to the ignorance or neglect of the creditor, as the time for prescription dates from the day that an effort is made to collect it. For instance, a promissory note is outlawed at the expiration of ten years. At the end of nine years and six months the creditor, through the courts, by notary public, or before witnesses, attempts to collect it; under such circumstances the law does not consider the nine years and six months as having expired, but counts the time for the second prescription from the date of attempted collection.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

D. M. MULLEN,
Commercial Agent at Sagua la Grande.

TRINIDAD.

DEBTS NOT COLLECTIBLE.

Some time since two gentlemen from Trinidad, while in New York, united their money ($500 each) to form a "backing book" for the racing season, one of them advancing the entire amount—$1,000. The money was lost on the "track," and, returning to Trinidad, the one who advanced the money sued the other for the recovery of the $500 moiety. The court (Sir John Gorvie, chief justice), after deciding that it was a loan of $500 by the plaintiff to the defendant, added:

> As to the object for which the money was to be used having been for horse racing or gambling on coming events, I have heard nothing to convince me that the object for which the money was actually used by the gentleman who borrowed it gives him a legal right to refuse payment. The defense is not a very nice one for a friend to put forward against the demand of a friend for money so obtained; but I look upon this as a simple contract of loan, bound to be repaid, and advanced temporarily on the ground that remittances were daily expected. Judgment for plaintiff with costs.

Referring to the specific questions embraced in the circular, I beg to answer:

The various obligations that have no legal or binding nature except the honor of the debtor are for professional services from those not authorized by law to render them, gambling debts, debts for unlawful or immoral purposes, and (if they belong in this list) debts discharged through bankruptcy and the statute of limitation.

Drinking debts are collectible; gambling debts are not collectible.

The services of the legal profession are divided between barristers and solicitors, and the one can not collect for services performed which properly belong to the duties of the other. The medical and dental professions are also strongly protected by law.

PAYMENT OF DEBTS OF HONOR.

There is no fixed rule or practice as to what extent, in proportion to the amount involved, debts of honor are paid.

In cases of insolvency, where the debtor may be forever discharged through a court of bankruptcy, it would seem as a general practice that he pays nothing on his old debts, even though he subsequently retrieves his fortune.

The extent to which outlawed indebtedness is considered a matter of honor and paid is difficult to estimate. There are many individuals here who would hold themselves tightly bound by the rules of honor to fully satisfy an unlawful debt fairly incurred, but I apprehend they would act in the matter more from their own convictions than from the force of public sentiment.

I am unable to determine whether, as a general practice, debts of honor are or are not, in proportion to the amount involved, more fully satisfied than legal debts. Though in the estimation of the debtor and of the community at large the former class might be somewhat more deserving of payment, yet the physical force of the Government is arrayed only on the side of legal debts; and this physical force stands at the back of public moral force here, instead of the public moral force standing at the back of the physical force, as in the United States. American communities studiously maintain the subordination of the military to the civil. They rely upon the virtue of the masses for protection against serious disorders, using the police and the militia, which are always in full touch with the masses, to regulate minor offenses. The strong and healthy public opinion which could alone support this system of government must necessarily be felt to a large degree in restraining dishonorable acts on the part of individual debtors. In this connection, I invite attention to the following quotation from a recent address by his excellency Governor Broome:

> In the elements which compose them, civilization and society are still pretty much what they were twenty centuries ago. "Might is right" now, just as much as it ever was. The difference is, that the respectable and law-abiding portion of the community have increased in proportionate numbers and have been wise enough and clever enough to organize themselves and to get all the "might" round to their side. But they would be nowhere if they were not backed by the soldier and the policeman, that is, by physical force. Therefore, in that sense, we must still say that "might is right," and, so far as we can see, that it must remain so. Yes, we depend upon you who wear uniforms and carry arms. Without you our nation will quickly be overthrown by attack and defeat from without; our society would still more quickly be overthrown by disintegration from within. What would be the good of our legislative council meeting to make laws if we could not pay a policeman, if we could not rely on the force—on physical force—to carry them out? A hundred thousand sermons from a thousand pulpits could do but little to save society, without the soldier and the policeman behind them, without physical force at the back of moral force. It is well on some occasions, when some people are questioning the utility of our volunteers, to have regard to these facts, and to remember that every community which desires a respectable and secure existence must have a very considerable amount of physical force at the command of its better citizens as the basis of everything.

This community (Trinidad) has a very mixed population. The laboring element is composed almost exclusively of negroes and coolies (the latter from India), and the business and professions are carried on almost exclusively by people of English, French, Spanish, German, and Portuguese extractions—a considerable percentage of whom are more bound by the ties of blood to other lands than to this island. Besides this, a very considerable part of the landed property of the island is vested in nonresidents. All these things are well worthy of consideration in connection with the subject-matter of the circular, but to them I beg to add that the masses of the people here are law-abiding, and their impulses are in the direction of honorable business transactions.

WM. B. PIERCE,
Consul at Trinidad.

ASIA.

CHINA.

To an American newcomer in China the laws respecting debt seem at first to be a labyrinth without a clew. Even a lawyer finds it difficult to determine the principles upon which Chinese jurisprudence is based. When, however, the student applies the touchstone of history and public policy, a system is disclosed which, though it is at utter variance with any that prevails in countries that follow the common law or that employ a code, possesses great wisdom and practical merit. Time and space forbid a detailed account of the juridical development of China, but a brief synopsis may be of benefit to the reader.

In the first place, all Chinese law is customary law. If from the legal systems of the United States and England every statute were stricken out, and more especially such enactments as the statute of frauds, the statute of limitations, and the statutes of descent and distribution, the remainder would bear a striking resemblance to the present jurisprudence of the Chinese Empire. The law books (so called) of the country are hardly commentaries. They profess to be statements of what is considered right and proper by the community at large.

In the second place, the Chinese regard litigation as an evil and try to reduce it to a minimum. There are no lawyers, no costs, fees, or allowances. There are no calendars, rules of practice, judgment rolls, nor any of the machinery which makes the attorney so prominent a feature of civilized life. A magistrate hears and determines a case very much as a father does a dispute between two children, or, better still, as an arbitrator does a difficulty between two friendly merchants. In the main, justice is done in the premises and, it must be added, is done more speedily, cheaply, and thoroughly than by the tribunals of our own race.

In the third place, litigation being an evil, public policy has increased to a very large extent the number of obligations which have no legal or binding nature except the honor of the debtor. Many of these "debts of honor" will seem monstrous to the legal mind. Among the obligations which the law of China declares to have no binding nature are:

(1) All moneys or property advanced by his friends and relatives to start a man in business.

(2) All moneys or property advanced by his friends and relatives to extricate a man from a trouble—civil, criminal, or political.

(3) All moneys or property advanced or loaned to a man to assist him in a civil litigation or in a criminal prosecution brought at his instance against a third party or parties.

(4) All moneys advanced or loaned to a gambler, a spendthrift, a drunkard, an opium-smoker, a prostitute, a runaway wife, or a concubine.

(5) All debts contracted in a drinking house, inn, restaurant, brothel, or gambling place.

(6) All moneys advanced or loaned "upon trust," *i. e.*, upon parol and without security, note, or bond.

(7) All debts contracted by a minor, a person of unsound mind, a person *non sui juris*, a servant, or a visitor.

(8) All services rendered by a physician, dentist, priest, fortune-teller, grave-teller, clairvoyant, medium, geomancist, monk, or nun.

(9) All commissions and brokerage, unless immediately paid before or after the bargain is consummated.

(10) All moneys lent at a rate of interest higher than the legal maximum limit—36 per cent per annum.

As before stated, drinking, gambling, and betting debts are not collectible at law in China. The first named are practically unknown. The only saloons and barrooms are those owned and patronized by Europeans. The natives regard alcoholic stimulants as foods or food accessories, using them at meals and then in minute quantities. Drunkards and total abstainers are almost unknown. It is a disgrace of the deepest sort for a Chinaman to be a dipsomaniac. It is equally disgraceful to supply him with liquor or to do business with him when under its influence. For this reason drinking debts are extremely rare. When they do exist, the creditor is both ashamed and afraid to acknowledge the fact and, as a natural consequence, to take any steps toward the enforcement of his rights.

It is very different with gambling debts. They are preëminently debts of honor in the Flowery Kingdom and are more willingly and speedily paid than debts of any other kind. To meet obligations of this type, a Chinaman will pawn all his personal property and borrow from all his relatives. Numerous cases are recorded in which he has sold a daughter, a concubine, or even a son to obtain the means to discharge a gambling account. Nor are such actions regarded as anything but praiseworthy by the general public. The actor is held up to praise as an upright man, and the luckless subject of the sale is highly esteemed for being willing to be sacrificed in order to pay the debt of him they loved. Several cases have occurred in which a daughter, concubine, or wife has sold herself without the knowledge of a father or husband who was heavily involved and unable to clear himself. In each instance the heroine has been universally lauded for filial or domestic piety. Yet the same people will allow their tradesman creditor to starve to death without the least compunction. Equally remarkable is the fact that a Chinaman will not accept the credit of a gambling debt, nor will he buy or sell one, no matter how responsible pecuniarily the debtor may be.

Professional services at Chinese law have in the main no legal value. In practice a physician keeps a memorandum of his services, but seldom, if ever, sends a bill. When his work is done, the patient usually hands him an amount of money equal to what would have been charged under the American system. For this no receipt is given. The same principle applies to scribes, mediums, priests, and other professionals. As a check upon non-paying customers shrewd professional men insist upon a note, I O U, or bond before doing any work. The document, no matter what its form, is as binding as ordinary business paper. It may be well to add at this point that a creditor has means of collecting debts which seem ridiculous to the western mind. He depends upon the profound love of peace and tranquillity, so characteristic of the Chinese race. When a patron or client shows a disinclination toward payment, he visits the latter's house, sits upon the threshold, and weeps and harangues until his bill is paid. It seldom requires more than an hour of lamentation to collect any reasonable claim.

Debts of honor are paid to the extent of about 60 per cent of the amounts incurred. Of the 40 per cent, 20 per cent is unpaid because of the insolvency of the debtor and the refusal of his kin to make him any advances. So far as payment is concerned, legal debts present the same figures.

In cases of insolvency legal debts and those of honor are almost invariably paid by the debtor if he retrieves his position. In very many cases the obligations of a bankrupt have been assumed by his children and even grandchildren. This is a legal duty when the debt is legal in character. When it is a debt of honor, its payment by a second generation is considered an act of high filial piety.

A custom, probably peculiar to China, is that of mutual forgetfulness. Business men who have advanced moneys or sold goods on credit and find it impossible to collect their capital or to obtain payment in full of the amount due them, but who are on friendly terms with their debtors, will, after several years, call upon the latter and agree to "forget everything to date." This is equivalent to a mutual release under seal and is highly favored by the great magistrates and priests of China. In conclusion, it may be stated that commercial litigation and insolvency are much rarer in China than in Europe or the United States. The number of tribunals, magistrates, and court officers is scarcely one-third, and the amount involved not a tenth, of what is at stake in the courts of Christendom.

Beyond the fear of going to law is the greater fear and disgrace of being a delinquent debtor. A Chinaman who becomes financially embarrassed will sell himself for a plantation coolie, go into exile for twenty years, or even commit suicide. It is part of his religion to pay off all he owes in the last week of the year, in order that he may begin the next one free from care and obligation. If he has not enough money, he will give a note or bond or a bond signed by relatives to tide himself over to a more prosperous season. At this time of the year creditors are lenient and liberal. Where they

are satisfied with the bona fides of a debtor, they will compromise on easy terms, and on many occasions will forgive the debt entirely.

In addition to these social features is the power of inertia. A man is born into a trade—in many instances into a certain shop or work yard. In his infancy he learns the calling practiced by his father and forefathers for centuries. He learns no other and cares for none. He is satisfied with a comfortable living and seldom has the opportunity to amass a fortune. There are no great magazines, no trusts, syndicates, pools, patents, copyrights, or monopolies in China and few of those influences or causes whose end is bankruptcy.

The matter may be summed up in the remark that the expression "a debt of honor" in China is "a debt of duty," and that one of their great maxims is "the highest good is the performance of every duty, even the humblest."

EDWARD BEDLOE,
Consul at Amoy.

The Chinese man of business is as honorable in mercantile affairs as his colleagues in Christian lands. The great merchants are the soul of honor, and foreigners prefer transacting business with them. The native sometimes makes contracts with foreigners which subsequent events prove will be disastrous, yet he fulfills his part.

Fraudulent failures are never known. The merchant can not make over his property to his wife, for in the event of failure his whole family must aid in settling with the creditors. The son is responsible for the debts of his father, and *vice versa;* and where, as is often the case, the family estates have not been divided, but held in common, the whole family is responsible for the debts of each of its members.

In China debts can hardly be classified as debts of honor and legal debts. Though all debts may not be legal debts, they are all, in the eyes of the Chinese, debts of honor. For a Chinese not to pay his debts is a disgrace felt so keenly that he will commit suicide rather than face the reproaches of his friends. On the last day of the year the Chinese have a great settling. On that day they settle with their creditors and begin the new year with clean books. At this time suicides are more frequent, the poor wretches being unable to meet their obligations. At two other periods of the year accounts are settled, but not so scrupulously.

The rich do not contract debts, unless they are reasonably sure that they can pay, for in the event of failure they would lose respect, and the possibility of a suicide's grave stares them in the face. The poor do not contract debts, because credit is not accorded them; they must pay cash down.

Debts resulting from gambling, and those incurred at illegal resorts, such as brothels, certain grades of hotels, opium joints, and others of similar nature, also voluntary subscription of whatever description, are all debts of

honor in China. Comparatively speaking, drinking and betting debts are unknown; but, should they occur, they would be classed as gambling debts and are not collectible at law.

The Chinese are legally bound to pay for all professional services. Debts of honor, being only contracted between persons of known credit, are generally paid in full. All legal debts remain collectible at law, irrespective of the time expired.

JOHN FOWLER,
Consul at Ningpo.

It is a very rare thing for a Chinaman to rely upon honor in a business transaction. The only obligation that would have no legal or binding nature would be one for a small amount where the creditor had failed to obtain a receipt or undertaking to repay. Storekeepers' debts might be called debts of honor; they are settled quarterly as a rule. A debtor who fails to settle is greatly disgraced in the eyes of his neighbors, and this is usually sufficient to prevent any attempt to default.

Gambling of any kind is contrary to Chinese law, and any debt in consequence is not collectible at law. A drinking debt is, as such, collectible at law.

There are no obligations for professional services that are debts of honor.

If a Chinaman suspends payment, his creditors may or may not agree to accept a certain percentage in full for their respective claims. If they do, it precludes their right to claim anything from him in the future. In the absence of an agreement to the contrary, it would be unusual for a debtor to pay up if he subsequently retrieves his position. Debts do not become outlawed here.

Honorary debts are not more generally satisfied in full than legal debts in proportion to the amounts involved.

J. A. LEONARD,
Consul-General at Shanghai.

INDIA.

DEBTS NOT COLLECTIBLE.

To mention all the obligations that have no legal or binding nature except the honor of the debtor would be impossible, but I shall attempt to name a few. Agreements are void if their consideration is unlawful. An agreement without consideration is void, unless it is in writing and is registered, or is a promise to compensate for something done, or is a promise made in writing to pay a debt barred by limitation. An agreement in re-

straint of marriage or of trade is void. Agreements in restraint of legal proceedings are void, as also are those the meaning of which is uncertain.

Gambling and betting debts are not collectible at law, but drinking debts are. As to betting debts, the Indian contract act is that "agreements by way of wager are void, and no suit shall be brought for recovering anything alleged to be won on any wager or intrusted to any person to abide the result of any game or other uncertain event on which any wager is made."

DEBTS FOR PROFESSIONAL SERVICES.

The only obligations for professional services which are debts of honor are those to a barrister of England or Ireland or a member of the faculty of advocates in Scotland. An English or Irish barrister or a Scotch advocate can not maintain a suit for remuneration for professional services.

PAYMENT OF DEBTS OF HONOR.

Debts of honor in India are very scrupulously paid. If a man can keep his agreement, he will. If, without very good reason, he fails to pay, he incurs, whether he is a native of India or a European, much social dislike and contempt. This, of course, does not refer to cases of adjudicated insolvency.

In cases of insolvency debts of honor are not usually paid when the debtor retrieves his position. Except in very rare cases, the insolvent holds himself to have done his duty by passing through the insolvency court.

Lastly, in India a man will satisfy a debt of honor rather than a legal debt, unless a creditor is threatening to put him into court.

SAMUEL MERRILL,
Consul-General at Calcutta.

JAPAN.

Payment of the following classes of obligations can not be legally enforced, viz: Gambling, betting, outlawed indebtedness, usurious interest, physicians', and, to some extent, lawyers' services; also, where money is advanced without any receipt or security, especially among relatives. Drinking debts are collectible within six months from the date of their contraction.

Physicians act as druggists, charging for the medicine, and it is at the option of the patient whether or not he will pay for the visit or consultation. Lawyers must fix the amount of their fees beforehand by written agreement in order to bind their clients to compensate them.

No reliable information can be secured as to what extent debts of honor or outlawed indebtedness are paid, but it is quite certain that such occurrences are very rare.

There is no bankruptcy or insolvency law in Japan whereby the debtor can be relieved by the courts from his obligation until they are satisfied in full.

Debts of honor are not more generally satisfied in full than legal debts in proportion to the amounts involved.

W. D. TILLOTSON,
Consul-General at Kanagawa.

DEBTS NOT COLLECTIBLE.

An obligation is a tie of either positive law or natural law which binds one or more persons to give, to do, or to abstain from doing something. Obligations of positive law are those which the debtor can be enforced to perform by means of legal proceedings, while obligations of natural law do not engender legal proceedings. Natural obligations are those which can not be enforced by way of action or by plea of set-off. Performance must be voluntary on the part of the debtor, to whose good faith and reason it is left by law. A natural obligation may be formally acknowledged by the debtor, and when thus acknowledged produces an ordinary civil or legal obligation. There are no specified kinds of natural obligations or debts that have no legal or binding nature, and the characteristics of them depend wholly upon the facts of each particular case. Accordingly, instead of stating various facts which constitute natural obligations, I shall now enumerate some causes which give rise to them. A natural obligation, or debt of honor, results from the following causes:

(1) From an agreement that is void in its origin for mistake excluding legal consent, for absence or insufficiency of description of its subject-matter, or for absence of the solemn forms required by law.

(2) From an agreement that is null for having for its subject-matter the doing or forbearing from doing something that is impossible. A promise that a third party, over whom the person promising has no authority or control, will do or forbear from doing something, although such doing or forbearance is lawful or possible, is to be considered as a promise to do something impossible, and the impossibility of performance of a contract renders it null and void at law. A debt of honor can also result from an agreement that is null for want of consideration when the promisee has no lawful and appreciable interest therein. A promise is to be considered as without appreciable interest for the promisee when it is made for the benefit of a third party and is not accompanied by a penal clause.

(3) A natural obligation can still exist after the nullification, revocation, or cancellation of a civil obligation has been judicially declared. Besides those cases in which a debtor can be held legally responsible by reason of an undue enrichment, unlawful injury, or of any provision of law, he can validly acknowledge himself to be bound on the same grounds by a natural obligation. Again, any person who has availed himself of the benefit of

liberatory or acquisitive prescription, or in whose favor a judgment has been rendered which is no longer open to attack, or who could make use of any other presumption or direct proof of his right or of his release, can still acknowledge himself to be naturally bound.

DRINKING AND GAMBLING DEBTS.

Drinking debts are recoverable at law, because these obligations are absolutely legal ones; but gambling and betting debts are not generally recoverable at law, for gambling and betting, being illegal in their nature, do not create any kind of obligation, either civil or natural. No action can be brought to enforce the performance of a gaming engagement, unless the game consists of a kind to develop the courage, strength, or skill of the players. An action based on a wager can likewise only be brought by a person taking part in such exercise or in the case of success of enterprise concerning agriculture, industries, or commerce by persons who take a direct part therein. In all other cases gaming and wagering create no civil or natural obligation, and acknowledgment of the debt is void and without effect. Unauthorized lotteries are treated on the same footing as gaming and wagering on which no action lies.

DEBTS FOR PROFESSIONAL SERVICES.

Fees or remuneration for professional services, such as those due to doctors, lawyers, and professors of science, can be judicially claimed, regard being had to the respective position of the parties, as well as to the custom of the place and to the agreement made.

Obligations for professional services are generally legal ones, and sometimes natural obligation may be created for them from the causes which are mentioned in the first answer.

PAYMENT OF DEBTS OF HONOR.

Debts of honor, or natural obligations, are not judicially claimed, for the law does not enforce their performance; but, if the debtor or obligor formally acknowledge themselves to be bound, then they will take the character of civil debt or ordinary legal obligation, and so far their performance will be compelled by law. Therefore, the amount to be paid is the amount acknowledged by the debtor to be bound.

In cases of insolvency natural debts, or debts of honor, are not judicially paid, even if the debtor subsequently retrieves his position, unless he validly acknowledges himself to be bound; and his acknowledgment will produce ordinary civil or legal obligation, which is to be legally enforced.

From the above-stated considerations it is easy to see that legal debts have preference over honorary debts, and the former are more generally satisfied in full than the latter.

W. H. ABERCROMBIE,
Consul at Nagasaki.

AFRICA.

EGYPT.

I am indebted to Judge A. M. Keiley, our judge on the mixed tribunal, for the information contained in the following report.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are of two kinds:

(1) Those which the debtor knows to be due, but of which his creditor has not the means of enforcing payment; a debt of which the evidence has been lost (the bond, note, promise, etc.) and which the creditor has no other means of proving, or a debt outlawed by lapse of time.

(2) Debts which the law refuses to help the creditor to collect, as gaming debts.

To these might be added debts of a moral obligation only. For example, debts of a parent which the child is under legal obligation to pay only when it has inherited from such parent sufficient means to acquit them.

DRINKING AND GAMBLING DEBTS.

Drinking debts are collectible at law. Gambling debts are not, and betting debts are gambling debts, because the law says that the consideration of any debt must be *licite;* and, since the law will not help a man to collect his gambling debts, these debts are classed under the first head of the answer to the first question and are called debts of honor, that is, debts due, but of which the creditor has not the means of enforcing payment.

DEBTS FOR PROFESSIONAL SERVICES.

A professional service can hardly be called a debt of honor, unless in a case where the debtor knows that it is due and the proof can not be furnished. Not then because it is a professional debt, for it would be exactly the same if it were a boot bill or a grocery account.

PAYMENT OF DEBTS OF HONOR.

The extent, in proportion to the amount incurred or assumed, that debts of honor are paid would, of course, depend on the debtor. As a rule, all is paid or none.

In case of insolvency debts of honor are not usually paid if the debtor subsequently retrieves his position. No debtor is justified in refusing to pay solely because the debt is outlawed.

Honorary debts, I should think, are not more generally satisfied in full than legal debts in proportion to the amounts involved, though this is necessarily a conjecture. But debts of honor are usually considered as exclusively gambling debts; and among gentlemen gamblers debts of honor have a higher rank, because the refusal to pay means exclusion from clubs and race courses and social ostracism.

LOUIS B. GRANT,
Acting Consul-General at Cairo.

LIBERIA.

I have the honor of submitting a reply from the attorney-general of Liberia to your interrogatories concerning debts of honor.

WILLIAM D. McCOY,
Consul-General at Monrovia.

THE ATTORNEY-GENERAL OF LIBERIA TO CONSUL-GENERAL M'COY.

The debts not collectible at law may be classed under three heads, viz:

(1) Obligations incurred in violation of law, and which are therefore not recognized as binding.

(2) Debts which, in consequence of the operation of the statute of limitations, or of the negligence or misconduct of the creditor, or of the loss of the evidence of indebtedness, or some other cause, the creditor is debarred or estopped from collecting or can not show his right to recover.

(3) Obligations which, growing out of contracts made in foreign countries, can not, for lack of jurisdiction, be enforced by our courts.

Each individual is free to pay or leave unpaid debts falling under either of these heads, and no rules can be laid down with regard to how or when they are to be paid.

I only deem it necessary to add to what I have said that contracts of all kinds relating to games of chance and wagers are illegal, and debts arising therefrom can not be collected. Amounts due for drink and reasonable charges for professional services can be collected under the same rules as other debts.

H. W. GRIMES,
Attorney-General, Republic of Liberia.

MOROCCO.

DEBTS NOT COLLECTIBLE.

The various obligations that have no legal or binding nature except the honor of the debtor are debts contracted by persons under 21 years of age, betting debts, and lawyers' fees. Drinking debts, however, are collectible at law.

DEBTS FOR PROFESSIONAL SERVICES.

There are obligations for professional services that are debts of honor, namely, to a lawyer or counselor at law or a consulting physician, which are styled "honorarium."

PAYMENT OF DEBTS OF HONOR.

The extent, in proportion to the amount incurred or assumed, to which debts of honor are paid, is a matter of personal experience, there being no statistical information obtainable on the point.

In cases of insolvency debts of honor are not generally paid if the debtor subsequently retrieves his position, especially among people who move their residence, as some foreigners usually do; but with Americans or English families who have been long residing in one place fully 90 per cent of such debts are paid, often after the lapse of thirty or forty years, and not infrequently by their prosperous children after the death of an insolvent father. Debts due to widows, orphans, aged persons, or persons reduced or in affliction are frequently paid, though barred by statute of limitations.

Honorary debts are more generally satisfied in full than legal debts in proportion to the amounts involved.

F. A. MATHEWS,
Consul-General at Tangier.

AUSTRALASIA.

NEW ZEALAND.

Owing to the impossibility of obtaining reliable and satisfactory data, I can give only a few instances of obligations incurred which have no legal status and consequently must be regarded as debts of honor.

DRINKING DEBTS.

Drinking debts are not collectible at law, except when it is proved that the liquor was supplied in moderate quantities by a hotel-keeper to a bona fide lodger. In case of suit being entered for the collection of such debts, the magistrate is to determine as to whether the quantity of liquor supplied was excessive or whether the landlord had conformed to the intent of the statute regulating the sale of drink.

GAMBLING DEBTS.

Gambling debts are not recoverable at law, except where money is lent for gambling purposes. For instance, if A, while playing cards for money, borrowed from B, who was not interested in the game, such a debt is considered legal and may be recovered.

Betting debts are not recoverable, but money deposited with a stakeholder to abide the event of a bet may be recovered from such stakeholder before the bet is decided, but not after, unless the latter has received notice not to pay over the money.

DEBTS FOR PROFESSIONAL SERVICES.

There are no obligations for professional services that are considered debts of honor, except, perhaps, the services of a barrister in court. A solicitor who is not also a barrister can not appear in the supreme court; he must therefore engage a barrister to appear for him. I understand that a barrister can not recover from the solicitor's client, neither can he from the solicitor himself. The barrister's remuneration for services of this kind is regarded as a debt of honor between himself and the solicitor who employs him. It is, however, gratifying to note that such debts are invariably paid. In respect of other debts of honor, there are no avilable means by which it can be even approximately determined what proportion of such debts are paid.

DEBTS OF INSOLVENTS.

In cases of insolvency, where the debtor has subsequently retrieved his position, I have been unable to find many instances when debts of honor

have been paid. I have no doubt there are isolated cases where debts of this kind are paid; but, unfortunately, they are the exception rather than the rule.

OUTLAWED DEBTS.

As to what extent outlawed indebtedness is considered a matter of honor and paid, it is impossible to speak with any degree of accuracy. The statute of limitation in ordinary trade transactions extends to six years, but indebtedness created under deed or other written covenant to pay does not become outlawed for twenty years. So far as my own observations in connection with this feature of the subject have gone during my residence in New Zealand, or, more particularly speaking, in Auckland, I regret to say I can not mention a single instance where outlawed debts have been paid. I have made considerable inquiry in business circles with a view to ascertain, if possible, to what extent such debts are paid; but the result of my efforts in this direction have been most unsatisfactory, the invariable answers being, "I have no knowledge of outlawed obligations being paid" or "I do not know of an instance when such indebtedness has been paid." Occasionally, however, a few individuals, on being interrogated on the subject, would broadly assert that the payment of such debts was a common practice; but upon being asked to name individual cases or instances they would suddenly discover that they "could not just then remember." It does not necessarily follow that, because I have been singularly unsuccessful in my efforts to unearth instances of such indebtedness being paid, honorable men do not sometimes pay their outlawed obligations when opportunity offers; but I believe the percentage of those who do so is very small.

PAYMENT OF DEBTS OF HONOR.

After the most diligent inquiry in various commercial circles, and among the gambling and sporting fraternities also, I am forced to the conclusion that the proportion of debts of honor that are paid is much larger than that of recognized legal claims. This I believe to be especially true of the "sporting community." I do not wish to imply that this particular class do not meet their legal obligations as well, for I believe they do. It is generally admitted that men will pay debts of honor before they will pay their butcher, baker, or grocer.

JNO. D. CONNOLLY,
Consul at Auckland.

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